Cub Cadet®

Power Equipment

Owner's Manual

REAR ENGINE LAWN TRACTORS

Model Numbers

1030

(132-522B100)

1238

(132-552F100)

Important:

Read Safety Rules and Instructions Carefully

Thank you for purchasing an American-built product.

WARNING: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.
In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest authorized service dealer.

CUB CADET CORPORATION • P.O. BOX 360930 • CLEVELAND, OHIO 44136

Cub Cadet
Power Equipment

LIMITED WARRANTY

Proper maintenance of your Cub Cadet equipment is the owner's responsibility. Follow the instructions in your owner's manual for correct lubricants and maintenance schedule. Your Cub Cadet dealer carries a complete line of quality lubricants and filters for your equipment's engine, transmission, chassis and attachments.

RIDING MOWERS, LAWN TRACTORS, GARDEN TRACTORS, CUB CADET ATTACHMENTS AND HOME MAINTENANCE PRODUCTS.

FIRST YEAR

This limited warranty for residential and commercial users covers any defect in materials or workmanship in your Cub Cadet equipment for one year from the date of purchase for the first user purchaser.

Batteries have a one year prorated limited warranty with 100% replacement during the first three months.

We will replace or repair any part or parts without charge through your authorized Cub Cadet dealer.

SECOND YEAR

This limited warranty, for residential users only, covers any defects in material or workmanship in the drive train for two years from the date of purchase for the first user purchaser.

The drive train consists of the engine, engine cradle, drive shaft, drive shaft clutch, all parts enclosed by the transmission housing, rear axle housing, brakes and electric power take-off (if so equipped). V-belts used for either the traction drive or any attachments are covered for one year only.

ITEMS NOT COVERED

The warranty does not cover routine maintenance items such as lubricants, filters (oil, fuel, air and hydraulic), cleaning, tune-ups, brake and/or clutch inspection, adjustments made as part of normal maintenance, blade sharpening, set-up, abuse, accidents and normal wear. It does not cover incidental costs such as transporting your equipment to and from the dealer, telephone charges or renting a product temporarily to replace a warranted product.

There is no other express warranty.

HOW TO OBTAIN SERVICE

Contact your authorized Cub Cadet servicing dealer who sold you your Cub Cadet equipment. If this dealer is not available see the Consumer Yellow Pages under "lawn mowers" for the name of a dealer near you.

If you need further assistance in finding an authorized Cub Cadet servicing dealer, write or telephone:

Cub Cadet Corporation
Post Office Box 360930
Cleveland, Ohio 44136
Attn: Customer Service

Telephone: (216) 273-4550

HOW DOES STATE LAW APPLY

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

CONTENTS

IMPORTANT SAFE OPERATION PRACTICES

THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR UNIT. WHEN YOU SEE THIS SYMBOL— **HEED ITS WARNING.**

DANGER: **This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.**

I. GENERAL OPERATION

1. Read, understand, and follow all instructions in the manual and on the machine before starting. Keep this manual in a safe place for future reference and for ordering replacement parts.
2. Only allow responsible adults familiar with the instructions to operate the machine. Know controls and how to stop the machine quickly.
3. Do not put hands or feet under cutting deck or near rotating parts.
4. Clear the area of objects such as rocks, toys, wire, etc. which could be picked up and thrown by the blade. A small object may have been overlooked and could be accidently thrown by the mower in any direction and cause injury to you or a bystander. Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from foreign objects. Stop the blade(s) when crossing gravel drives, walks or roads.
5. Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
6. Never carry passengers.
7. Disengage blade(s) before shifting into reverse and backing up. Always look down and behind before and while backing.
8. Be aware of the mower and attachment discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the chute guard in place.
9. Slow down before turning. Operate the tractor smoothly. Avoid erratic operation and excessive speed.
10. Never leave a running machine unattended. Always turn off blade(s), place transmission in neutral, set park brake, stop engine and remove key before dismounting.
11. Turn off blade(s) when not mowing.
12. Stop engine and wait until blade(s) comes to a complete stop before (a) removing grass catcher or unclogging chute, or (b) making any repairs, adjusting or removing any grass or debris.
13. Mow only in daylight or good artificial light.
14. Do not operate the machine while under the influence of alcohol or drugs.
15. Watch for traffic when operating near or crossing roadways.
16. Use extra care when loading or unloading the machine into a trailer or truck. This unit should not be driven up or down a ramp onto a trailer or truck under power, because the unit could tip over, causing serious personal injury. The unit must be pushed manually to load or unload properly.
17. Never make a cutting height adjustment while engine is running if operator must dismount to do so.
18. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Do not wear loose fitting clothes or jewelry. They can be caught in moving parts. Never operate a unit in bare feet, sandals, or sneakers.
19. Check overhead clearance carefully before driving under power lines, wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the operator may be struck or pulled from the unit, which could result in serious injury.
20. Disengage all attachment clutches, thoroughly depress the brake pedal, and shift into neutral before attempting to start engine.

II. SLOPE OPERATION

Slopes are a major factor related to loss of control and tip-over accidents which can result in severe injury or death. **All** slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

DO:

Mow up and down slopes, not across.
Remove obstacles such as rocks, limbs, etc.
Watch for holes, ruts or bumps. Uneven terrain could overturn the machine. **Tall grass can hide obstacles.**
Use slow speed. Choose a low enough gear so that you will not have to stop or shift while on the slope. Always keep tractor in gear when going down slopes to take advantage of engine braking action.
Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.
Use extra care with grass catchers or other attachments. These can change the stability of the machine.
Keep all movement on the slopes **slow** and **gradual**. Do not make sudden changes in speed or direction. Rapid engagement or braking could cause the front of the machine to lift and rapidly flip over backwards which could cause serious injury.
Avoid starting or stopping on a slope. If tires lose traction, disengage the blade(s) and proceed slowly **straight** down the slope.
For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.

RULES FOR SAFE OPERATION (continued)

DO NOT:

Do not turn on slopes unless necessary; then, turn slowly and gradually downhill, if possible.

Do not mow near drop-offs, ditches or embankments. A wheel over the edge or an edge caving in could cause sudden overturn.

Do not mow on wet grass. Reduced traction could cause sliding.

Do not try to stabilize the machine by putting your foot on the ground.

Do not use grass catcher on steep slopes.

III. CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. **Never** assume that children will remain where you last saw them.

1. Keep children out of the mowing area and in watchful care of an adult other than the operator.
2. Be alert and turn machine off if children enter the area.
3. Before and when backing, look behind and **down** for small children.
4. Never carry children. They may fall off and be seriously injured or interfere with the safe machine operation.
5. Never allow children under 14 years old to operate the machine. Children 14 years and over should only operate machine under close parental supervision and proper instruction.
6. Use extra care when approaching blind corners, shrubs, trees or other objects that may obscure vision.

IV. SERVICE

1. Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
   a. Use only an approved container.
   b. Never remove gas cap or add fuel with the engine running. Allow engine to cool at least two minutes before refueling. Do not smoke.
   c. Never refuel the machine indoors.
   d. Never store the machine or fuel container inside where there is an open flame, or spark, such as a water heater, space heater, clothes dryer and the like.
2. Never run a machine inside a closed area.
3. Check frequently and keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in safe working condition.
4. Never tamper with safety devices. Check their proper operation regularly. Use all guards as instructed in this manual.
5. To reduce fire hazard, keep machine free of grass, leaves or other debris build-up. Clean up oil or fuel spillage. Allow machine to cool before storing.
6. Stop and inspect the equipment for damage if you strike an object. Repair, if necessary, before re-starting and operating the machine.
7. Never make adjustments or repairs with the engine running.
8. Grass catcher components are subject to wear, damage and deteriorate, which could expose moving parts or allow objects to be thrown. Frequently, check components and replace with manufacturer's recommended parts when necessary.
9. Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves and use extra caution when servicing blade(s).
10. Check brake operation frequently. Adjust and service as required.
11. Muffler, engine, and belt guards become hot during operation and can cause a burn. Allow to cool down before touching.
12. Do not change the engine governor settings or overspeed the engine.

DANGER: Your unit was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.

TO THE OWNER

This manual contains operation, lubrication, and maintenance instructions for the Cub Cadet 1030 and 1238 rear engine lawn tractors. The material has been prepared in detail to help you better understand the correct care and efficient operation of your lawn tractor. Before you operate the lawn tractor, study this manual carefully. Additional copies may be ordered from your dealer at a nominal price.

Your local authorized dealer is interested in the performance you receive from your rear engine lawn tractor. He has factory-trained servicemen, informed in the latest method of servicing tractors, modern tools, and original-equipment service parts which assure proper fit and good performance.

To obtain top performance and assure economical operation the rear engine lawn tractor should be inspected, depending on its use, periodically, or at least once a year, by your authorized dealer.

When in need of parts, always specify the model, chassis, and engine serial numbers, including the prefix and suffix letters. Write these serial numbers in the space provided on this page.

Should you have difficulties with the unit, consult your authorized dealer. UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO SERVICE THESE UNITS YOURSELF. Only your dealer is authorized to repair or replace units on this drive under the terms of the warranty. Should you desire additional information not found in this manual, contact your authorized Cub Cadet dealer.

SERIAL NUMBER LOCATION

Chassis serial number plate is on the frame, under the seat. Engine serial number plate is located on the engine shroud. Record these numbers in the space provided at right.

MODEL _____

DELIVERY DATE _____

CONTROLS

Your Cub Cadet rear engine lawn tractor has been safety engineered. Thoroughly acquaint yourself with all the controls before attempting to start or operate the lawn tractor.

NOTE: *LEFT and RIGHT indicate the left and right sides of the tractor when facing forward in the driver's seat.*

THROTTLE CONTROL

The throttle control is located beside the seat on the right side of the rear engine lawn tractor. See figure 1. The throttle control controls the speed of the engine.

When using attachments operated by the power take-off, best performance is achieved with the throttle control in the FAST position.


"Turtle" This symbol shows SLOW position.


"Rabbit" This symbol shows FAST position.

CHOKE CONTROL

The choke control is located above the throttle control on the right side of the rear engine lawn tractor. The choke control is operated manually. Pull choke knob out to choke engine. Push knob in to open choke. See figure 1.

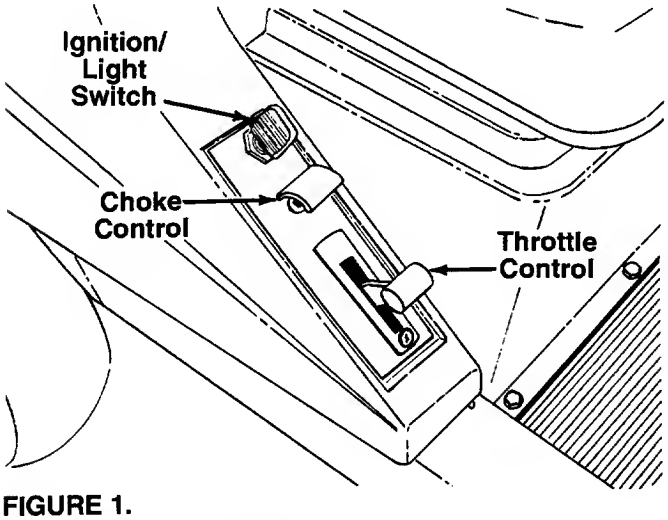


FIGURE 1.

IGNITION/LIGHT SWITCH

The combination ignition and light switch is a four-position switch. It is located above the choke and throttle control on the right side of the rear engine lawn tractor.

Turn the ignition key all the way to the right to start the engine. The key will return to the ON position when released. Turn the key one more position to the left to operate the tractor with the light illuminated. See figures 1 and 2.

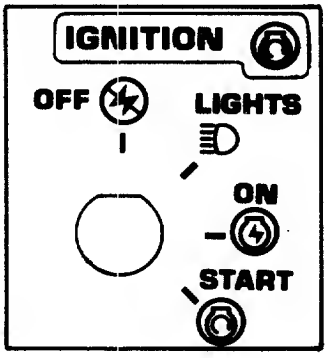


FIGURE 2.

SHIFT LEVER

The shift lever is located on the left side of the console. See figure 3. The shift lever is used to select one of eight (8) forward speeds, neutral or reverse. The clutch-brake pedal must be depressed and the lawn tractor must not be moving when shifting from forward to reverse gear. Do not force the shift lever.

SPEED CONTROL INDICATOR

The speed control indicator is located in front of the shift lever. It can be used to preset the speed of the lawn tractor. Press the speed control indicator outward, move to desired speed setting and release. When the shift lever is moved out of neutral into forward position, the lawn tractor will automatically go to the preset speed.

CLUTCH-BRAKE PEDAL

The clutch-brake pedal is located on the right side of the rear engine lawn tractor. Depressing the clutch-brake pedal part way disengages the clutch. Pressing the pedal all the way down disengages the clutch and engages the disc brake to stop the lawn tractor. See figure 3.

NOTE: *The clutch-brake pedal must be depressed to start the engine. Parking brake must be engaged if operator leaves the seat with the engine running.*

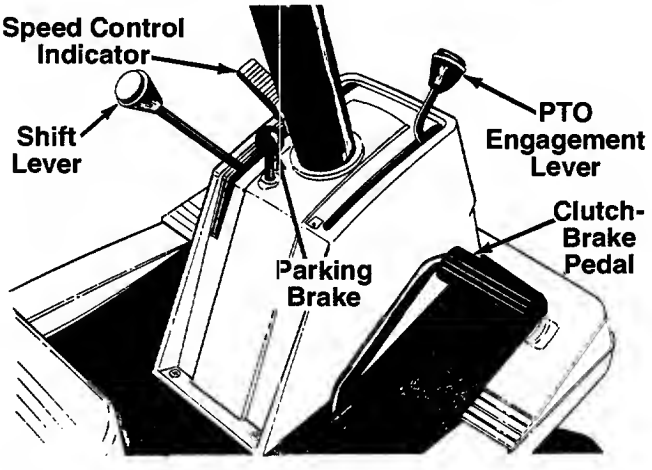


FIGURE 3.

PARKING BRAKE

To set the parking brake, depress the clutch-brake pedal and press the parking brake knob down. To release the parking brake, depress and release the clutch-brake pedal. See figure 3.

PTO ENGAGEMENT LEVER

The PTO engagement lever is located on the right side of the console. See figure 3. To engage the blade, move the PTO engagement lever toward the front of the unit. Move the lever toward the rear to disengage the blade.

CUTTING HEIGHT LEVER

The cutting height lever is located beside the seat on the left side of the lawn tractor. See figure 4. It is used to raise and lower the cutting deck, which sets the cutting height.

Move the lever outward, select desired cutting height and release lever. The lever may be set in any one of eight cutting height positions. See figure 4.

WARNING: The blade does not shut off when the deck is raised. You must place the PTO engagement lever in the disengaged (OFF) position.

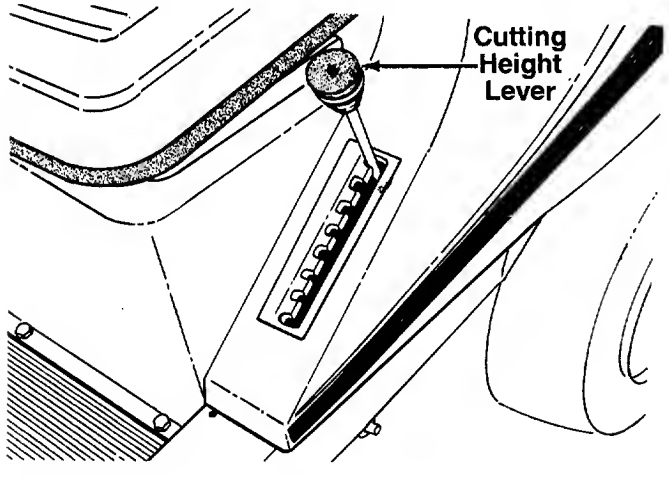


FIGURE 4.

SAFETY INTERLOCK SYSTEM

Interlock safety switches are located on the clutch-brake pedal, the PTO engagement lever, shift lever and the seat.

Before the engine will start or if the operator leaves the seat, the clutch-brake pedal must be depressed all the way (parking brake engaged), and the PTO engagement lever must be in the disengaged position.

In addition, the PTO engagement lever must be in the disengaged position before the unit can be shifted into reverse.

OPERATION

WARNING

AVOID SERIOUS INJURY OR DEATH

- GO UP AND DOWN SLOPES, NOT ACROSS. • AVOID SUDDEN TURNS.
- DO NOT OPERATE THE UNIT WHERE IT COULD SLIP OR TIP.
- IF MACHINE STOPS GOING UPHILL, STOP BLADE(S) AND BACK DOWNHILL SLOWLY.
- DO NOT MOW WHEN CHILDREN OR OTHERS ARE AROUND.
- NEVER CARRY CHILDREN.
- LOOK DOWN AND BEHIND BEFORE AND WHILE BACKING.
- KEEP SAFETY DEVICES (GUARDS, SHIELDS, AND SWITCHES) IN PLACE AND WORKING.
- REMOVE OBJECTS THAT COULD BE THROWN BY THE BLADE(S).
- KNOW LOCATION AND FUNCTION OF ALL CONTROLS.
- BE SURE BLADE(S) AND ENGINE ARE STOPPED BEFORE PLACING HANDS OR FEET NEAR BLADE(S).
- BEFORE LEAVING OPERATOR'S POSITION, DISENGAGE BLADE(S), PLACE THE SHIFT LEVER IN NEUTRAL, ENGAGE BRAKE LOCK, SHUT ENGINE OFF AND REMOVE KEY.

READ OPERATOR'S MANUAL

IMPORTANT: This unit is equipped with a **safety interlock system** for your protection. The purpose of the safety interlock system is to prevent the engine from cranking or starting unless the clutch-brake pedal is depressed and the PTO engagement lever is in the disengaged position. In addition, the PTO engagement lever must be in the disengaged position when the unit is put into reverse or the engine will shut off. If the operator leaves the seat with the PTO engagement lever engaged and/or without setting the parking brake, the engine will shut off.

To restart the engine, shift into neutral (N), move PTO engagement lever to the OFF position, and restart the engine while seated.

WARNING: Do not operate the lawn tractor if the interlock system is malfunctioning because it is a safety device, designed for protection.

GAS AND OIL FILL-UP

Service the engine with gasoline and oil as instructed in the separate engine manual packed with your rear engine lawn tractor. Read instructions carefully.

NOTE: *Your lawn tractor is shipped without oil; however, a small amount of oil may be present from the factory. Do not overfill.*

WARNING: Never fill fuel tank indoors, with engine running or while engine is hot.

STARTING THE ENGINE

1. Attach the wire to the spark plug.
2. Depress the clutch-brake pedal and lock it down.
3. Make certain the PTO engagement lever is in the disengaged position.

4. Set throttle control in the FAST position. Pull out the choke control.

NOTE: *A warm engine may not require choking.*

5. Place the shift lever in the NEUTRAL position.
6. Turn the ignition key to the START position. As soon as the engine starts, let the key return to the ON position. See figure 2.

NOTE: *Do not operate the starter for more than 10 seconds at any one time. If the engine does not start within this time, turn the key OFF and wait a few minutes, then try again.*

7. Push choke knob in gradually. Move throttle control to desired engine speed.
8. To stop, turn the ignition key to the OFF position. Remove the key when the lawn tractor is not in use.

STOPPING

Engine—Turn the ignition key to the left to the OFF position.
Lawn Tractor—Depress the clutch-brake pedal.
Blades—Pull the PTO engagement lever all the way back.

DRIVING THE REAR ENGINE LAWN TRACTOR

NOTE: *Parking brake must be disengaged before unit is put into motion.*

1. Advance the throttle control to full throttle to prevent strain on the engine and to operate the cutting blades.
2. Place the shift lever in either the FORWARD or REVERSE position.

WARNING: Look to the rear before backing up.

3. Slowly release the clutch-brake pedal.
4. To stop, depress the clutch-brake pedal.

NOTE: *When operating the unit initially, there will be little difference between the highest two speeds until after the belts have seated themselves into the pulleys during the break-in period.*

The blades can be engaged either while moving forward or while standing still. Move the PTO engagement lever forward slowly until the blades are turning.

WARNING: When the blades are engaged, keep feet and hands away from the discharge opening, the blades or any part of the deck.

Be sure that the lawn is clear of stones, sticks, wire, or other objects which could damage lawn mower or engine. For best results and to insure more even grass distribution, do not mow when lawn is excessively wet.

WARNING: Before leaving the operator's position for any reason, disengage the blades, place the shift lever in neutral, engage the parking brake, shut engine off and remove the key.

When stopping the unit to empty a grass bag, etc., follow the instructions above. This procedure will also eliminate "browning" the grass, which is caused by hot exhaust gases from a running engine.

IMPORTANT: If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower.

NOTE: *If any problems are encountered, refer to the Trouble Shooting Guide on page 29.*

If unit stalls with speed control in high speed, or if unit will not operate with speed control lever in a low speed position, proceed as follows.

1. Place shift lever in Neutral.
2. Restart engine.
3. Place speed control indicator and shift lever in high speed position.
4. Slowly and with extreme caution release clutch-brake pedal fully.
5. Depress clutch-brake pedal.
6. Place speed control indicator lever in desired position.
7. Place shift lever in either forward or reverse, and follow normal operating procedures.

OPTIONAL ACCESSORIES AVAILABLE

Rear bagging grass catcher model 310 is available as optional equipment for the rear engine lawn tractors shown in this manual.

WARNING: The mower should not be operated without the entire grass catcher or chute deflector in place.

NOTE: *Under normal usage bag material is subject to wear, and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations. For replacement bags, use only factory authorized replacement.*

A 30" mulching kit model 093 is available as optional equipment for model 1030 shown in this manual.

A 38" mulching kit model 096 is available as optional equipment for model 1238 shown in this manual.

ADJUSTMENTS

WARNING: Do not at any time make any adjustment to rear engine lawn tractor without first stopping engine and disconnecting spark plug wire.

THROTTLE CONTROL

If adjustment is needed, refer to the separate engine manual packed with your unit.

SPEED CONTROL LEVER ADJUSTMENT

NOTE: *When operating the unit initially or after replacing the belts, there will be little difference between the highest two speeds until after the belts have gone through a break-in period and have seated themselves into the pulleys.*

If the full range of speeds cannot be obtained on your unit, adjust the speed control lever as follows.

1. Place the transmission in neutral. (The unit will move freely when pushed forward and backward with the parking brake released.)
2. Disconnect the transmission shift rod by removing the cotter pin and flat washer. Remove ferrule from gear shift bracket. See figure 5.
3. Start the engine.
4. Place the speed control indicator and shift lever in the eighth (high speed) position.
5. Release the clutch-brake pedal completely, then slowly depress the pedal all the way (to park position). Hold the pedal in this position.
6. Turn the engine off.
7. After engine stops completely, release the clutch-brake pedal.
8. Disconnect the speed control rod by removing the cotterpin and flat washer. See figure 5.
9. Place the speed control indicator and shift lever in the third speed position.
10. Pull down on speed control rod so rod is at the bottom of slot in shift cam assembly. Adjust ferrule to fit into hole on clutch pedal bracket assembly.
11. Secure the speed control rod using the flat washer and cotter pin.
12. Reconnect the transmission shift rod using flat washer and cotter pin removed in step 1.

NEUTRAL ADJUSTMENT

1. With engine off, disconnect transmission shift rod by removing the cotter pin and flat washer. Remove ferrule from gear shift bracket. See figure 5.
2. Place the transmission in neutral. (The unit will move freely when pushed forward and backward with the parking brake released). Place the shift lever in the neutral position.
3. Thread ferrule in or out as necessary to fit into hole of gear shift bracket. Secure with flat washer and cotter pin removed in step 1.

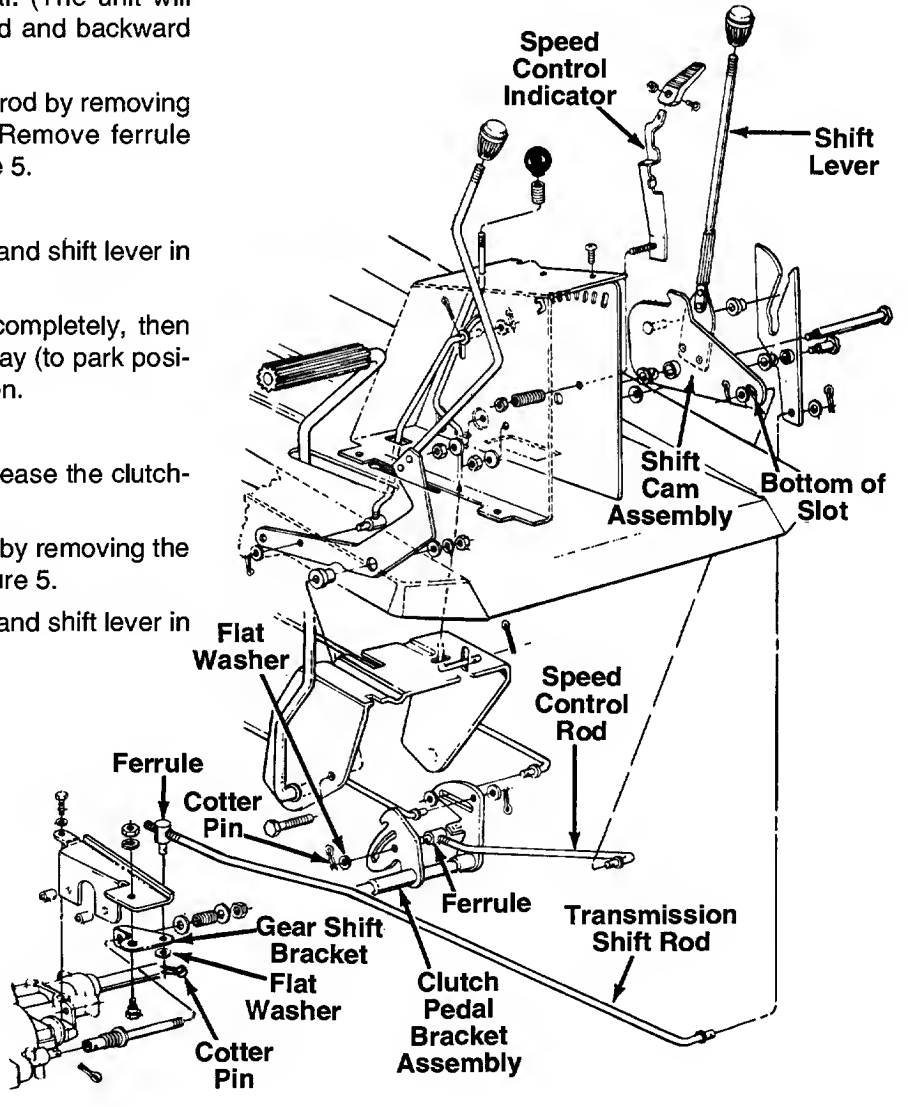


FIGURE 5.

BRAKE ADJUSTMENT (See Figure 6)

NOTE: *Your brake may be equipped with a castle nut and cotter pin instead of the lock nut shown in figure 6.*

The brake is located by the left rear wheel inside the frame. During normal operation of this machine, the brake is subject to wear and will require periodic examination and adjustment.

To adjust the brake, remove the cotter pin (if so equipped). Adjust the nut so the brake starts to engage when the brake lever is 1/4" to 5/16" away from the axle housing. Reinstall the cotter pin (if one was removed).

NOTE: *Figure 6 is shown with the unit tipped up on rear wheels for clarity only.*

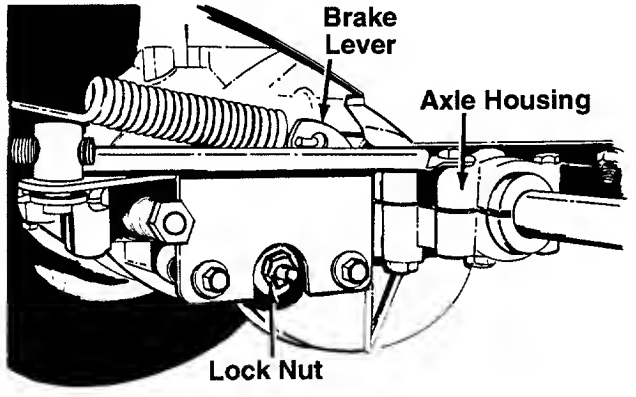


FIGURE 6.

WHEEL ALIGNMENT

The caster (forward slant of the king pin) and the camber (tilt of the wheels out at the top) require no adjustment. Automotive steering principles have been used to determine the caster and camber on the mower. The front wheels should toe-in 1/8 inch. See figure 7. To adjust, follow these steps:

1. Remove the cotter pin and flat washer which hold the tie rod to the axle bracket. See figure 7.
2. Adjust the tie rod in or out until the wheels toe-in approximately 1/8" (Dimension "A" should be approximately 1/8" less than dimension "B"). See figure 8.

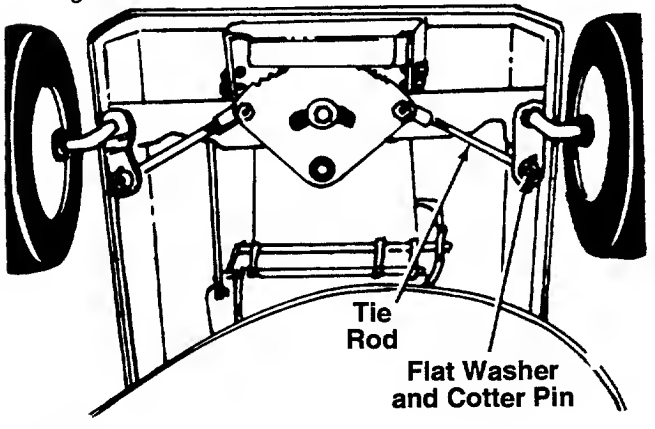


FIGURE 7.

3. Replace the tie rod into the wheel bracket, and replace the cotter pin and flat washer.

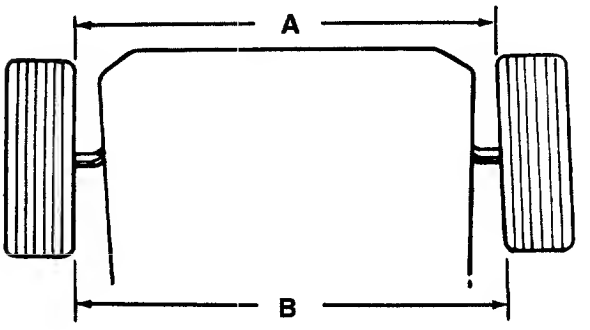


FIGURE 8.

DECK ADJUSTMENT

Side to Side Leveling

NOTE: *Check tire pressure in all four tires before leveling the deck. Recommended tire pressure is 12 p.s.i.*

If an uneven cut is obtained, the deck may be leveled.

1. Raise the deck to its highest position.
2. With the unit on a hard, level surface, measure the distance from the bottom edge of both the left rear and right rear of deck to the ground.
3. If adjustment is needed, loosen the hex nut on the adjusting screw, located under the right side of the frame. See figure 9. Move the adjusting screw inward to lower the right side of the deck, or outward to raise the right side of the deck.
4. Remeasure the deck as described in step 2, and readjust if necessary. Tighten the hex nut to secure the adjusting screw when the deck is level.

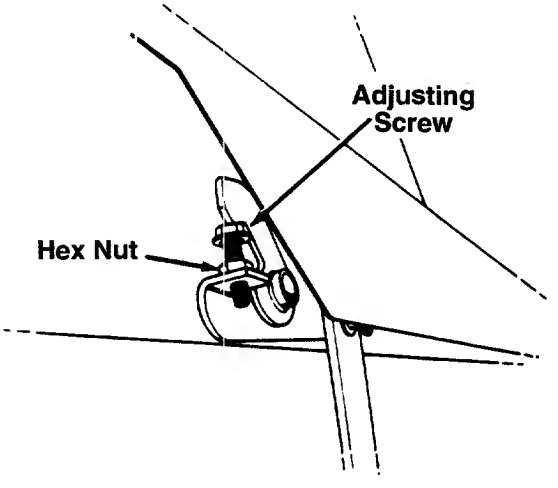


FIGURE 9.

Front to Rear Adjustment

To obtain the best cut, the front of the deck should be between 1/4" and 3/8" lower than the rear of the deck.

1. Make the side to side adjustment as instructed previously.
2. Measure the distance from the bottom edge of the front and right rear of deck to the ground.
3. If the front is not between 1/4" and 3/8" lower than the rear, remove the hairpin clips and flat washers which secure the J-bolts to the front of the deck, both right and left sides. See figure 10. Thread the J-bolts into or out of the ferrules as necessary.
4. Reassemble J-bolts and recheck the adjustment. Readjust as necessary. Secure with flat washers and hairpin clips when adjustment is correct.

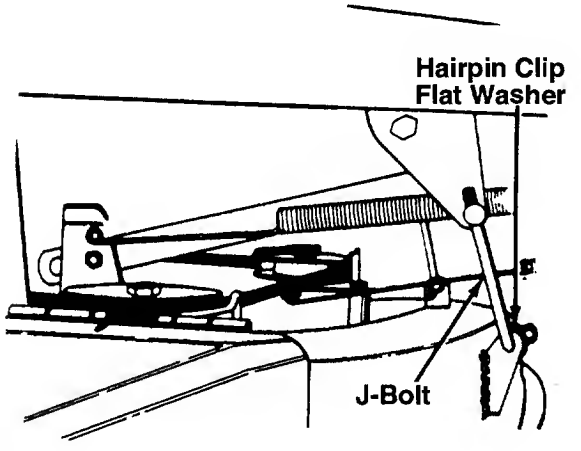


FIGURE 10.

BLADE BRAKE ADJUSTMENT (Model 1030 Only)

WARNING: Make certain spark plug wire is disconnected and grounded against the engine while making this adjustment.

To adjust the blade brake, proceed as follows. See figure 11.

1. Disconnect the brake cable from the lower inside belt guard on the lawn tractor by removing the hairpin cotter, flat washer and clevis pin.
2. Lower the deck to its lowest position. Place the blade engagement lever in the **disengaged** position.
3. Pull the brake cable back so there is no slack in the cable. **Do not** put tension on the cable. Select the hole in the lower inside belt guard which aligns with the end of the cable. Move the end of the brake cable **forward** to the next hole in the belt guard (which will give a small amount of slack in the cable), and reassemble.

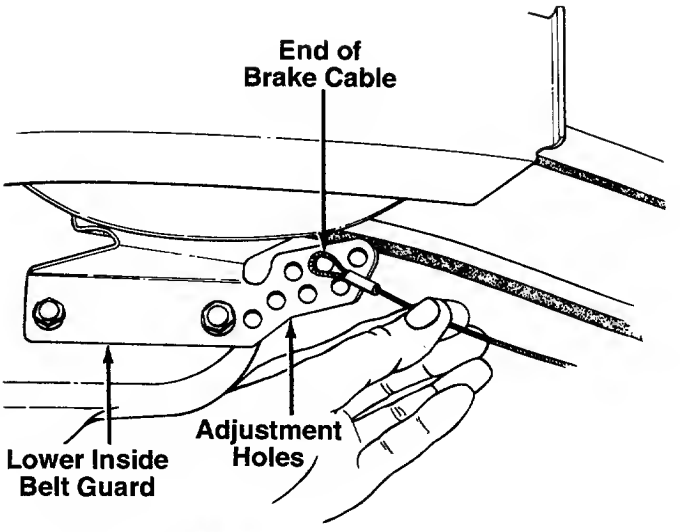


FIGURE 11.—Model 1030 Only

SEAT ADJUSTMENT

The seat may be adjusted to different positions. To adjust the seat, loosen the four self-tapping screws which secure the seat to the seat bracket. See figure 12. Slide the seat to desired position and retighten the self-tapping screws.

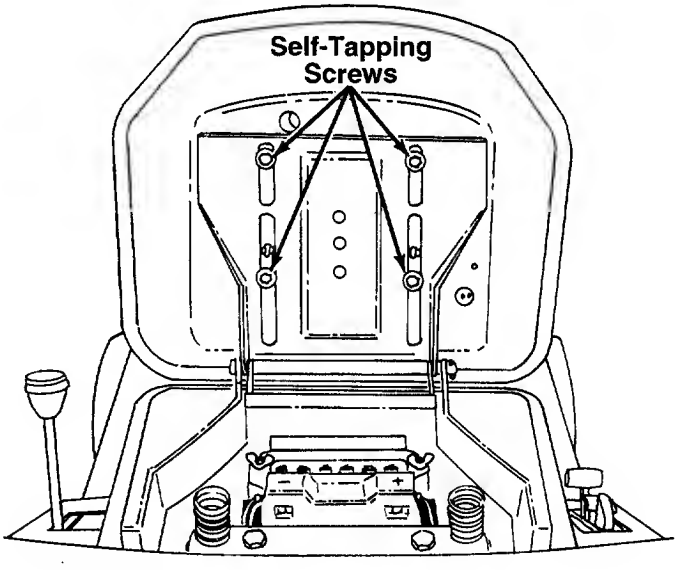


FIGURE 12.

STEERING WHEEL ADJUSTMENT

There are three height positions for the steering wheel. See figure 13. To adjust, proceed as follows.

Remove the steering cover by removing four self-tapping screws. Remove the hex bolt and hex lock nut on the steering shaft.

Raise or lower the steering shaft to desired height. Secure with the hex bolt and hex lock nut. Reassemble the steering cover.

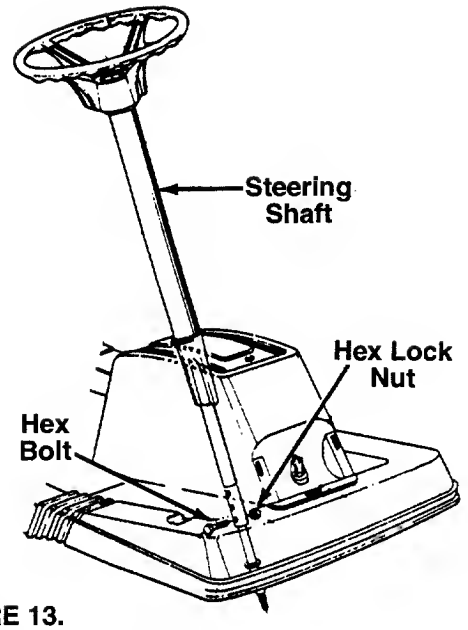


FIGURE 13.

CARBURETOR ADJUSTMENT

WARNING: If any adjustments are made to the engine while the engine is running (e.g. carburetor), disengage all clutches and blades. Keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load. To adjust the carburetor, refer to the separate engine manual packed with your unit.

NOTE: *A dirty air cleaner will cause an engine to run rough. Be certain air cleaner is clean and attached to the carburetor before adjusting carburetor.*

LUBRICATION

WARNING: Always stop engine and disconnect spark plug wire before cleaning, lubricating or doing any kind of work on riding mower.

Engine—Maintain the engine oil according to the engine manual.

Front Wheels—Front wheels which have bronze bearings are provided with grease fittings. Lubricate at least once a season with automotive multi-purpose grease. Wheels which have ball bearings do not require lubrication.

Front Axle—The front axle assemblies are provided with grease fittings. Lubricate at least three times a season using automotive multi-purpose grease.

Shift Cam—Lubricate the shoulder spacer on shift cam at least once a season using automotive multi-purpose grease.

Steering Gear—Lubricate the steering gear segment at least once a season using automotive multi-purpose grease. To lubricate, turn the steering wheel all the way to the right. Brush grease on the steering gear segment. Turn steering wheel several times in both directions to disperse the grease.

Linkage—Oil all deck linkage and height adjustment linkage.

Transaxle—It is lubricated at the factory and does not require checking. Lubricate with 10 oz. of grease (Part No. 737-0148) if disassembled.

MAINTENANCE

WARNING: Disconnect spark plug wire and ground it against the engine before performing any repairs or maintenance.

CUTTING BLADE

A. Removal for Sharpening or Replacement

WARNING: Be sure to disconnect and ground the spark plug wire before working on the cutting blade to prevent accidental engine starting. Protect hands by using heavy gloves or a rag to grasp the cutting blade.

1. Remove the large bolt and lock washer which holds the blade and adapter to the blade spindle. See figure 14.
2. Remove the blade and adapter from the spindle.
3. If the blade or blade adapter needs replacing, remove the two small bolts, lock washers and nuts which hold the blade to the adapter. See figure 14.

B. Sharpening

Remove the cutting blade by following the directions of the preceding section.

When sharpening the blade, follow the original angle of grind as a guide. It is **extremely important** that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

The blade can be tested for balance by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly.

NOTE: *It is recommended that the blade always be removed from the adapter for the best test of balance.*

C. Reassembly

Before reassembling the blade and the blade adapter to the unit, lubricate the spindle and the inner surface of the blade adapter with light oil. Lubricating the bolt holes, bolts and inner surface of the nuts with light oil is also recommended. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

When replacing the blade, be sure to install the blade with the side of the blade marked "Bottom" (or with part number) facing the ground when the mower is in the operating position.

Blade Mounting Torque

3/8" Dia. Bolt 450 in. lb. min., 600 in. lb. max.
5/16" Dia. Bolt 200 in. lb. min., 350 in. lb. max.

NOTE: *To insure safe operation, ALL nuts and bolts must be checked periodically for correct tightness.*

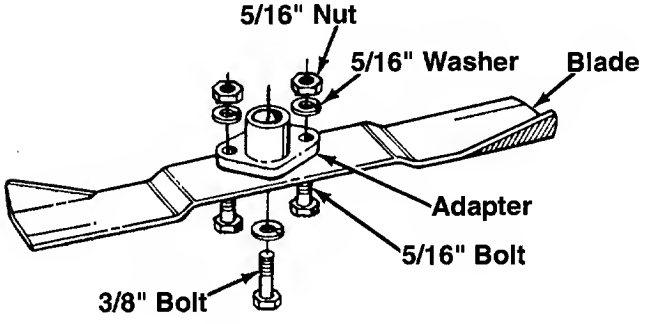


FIGURE 14.

FUEL FILTER

Your unit is equipped with a replaceable in-line fuel filter. Replace filter whenever contamination or discoloration is noticed. Order replacement filter through your engine authorized service dealer.

CLEANING ENGINE AND BLADE HOUSING

Any fuel or oil spilled on the machine should be wiped off promptly. Grass, leaves, and other dirt must not be left to accumulate around the cooling fins of the engine or on any part of the machine.

Clean the underside of the blade housing after each mowing.

BELTS

Check that belts are free of oil or dirt. Wipe the belts periodically with a clean rag.

ENGINE

Refer to separate engine manual for all engine maintenance instructions.

Maintain **engine oil** as instructed in the separate engine manual packed with your unit. Read and follow instructions carefully.

Service **air cleaner** every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced.

The **spark plug** should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specification.

BATTERY INFORMATION

WARNING

A. Battery acid must be handled with great care as contact with it can burn and blister the skin. It is also advisable to wear protective clothing (goggles, rubber gloves and apron) when working with it.*

B. Should battery acid accidentally splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.

C. If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.

D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding empty electrolyte containers, rinse them with a neutralizing solution.

E. NEVER connect or disconnect charger clips to battery while charger is turned on as it can cause sparks.

F. Keep all lighted materials (cigarettes, matches, lighters) away from the battery as the hydrogen gas generated during charging can be combustible.

G. As a further precaution, only charge the battery in a well-ventilated area.

***Always shield eyes, protect skin and clothing when working near batteries.**

DANGER

Battery contains sulfuric acid. Refer to previous warning. Antidote: EXTERNAL—Flush with water. INTERNAL—Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Seek prompt medical attention. EYES: Flush with cool water for at least 15 minutes, then seek immediate medical attention.

Since batteries produce explosive gases, keep all lighted materials (cigarettes, lighters, matches, etc.) away. Be sure to charge battery only in well-ventilated areas. Make certain venting path of battery (drain tube) is always open.

KEEP BATTERIES
OUT OF THE REACH OF CHILDREN!

CHARGING THE BATTERY

The engine on your rear engine lawn tractor is equipped with an alternator. The current for the battery charger alternator is unregulated. During normal operation, it is only necessary to charge the battery:

1. When it is activated for the first time.
2. Before winter storage.
3. Before using the lawn tractor after winter storage.

When charging the battery after it is in operation, SLOW CHARGE (DO NOT FAST CHARGE) at a maximum bench rate of 1.4 amperes for a period of 14-16 hours. DO NOT CHARGE LONGER THAN 30 HOURS.

BATTERY MAINTENANCE

1. Check periodically (every two weeks or before and after charging) to be sure electrolyte level is above the lowest line on battery. Add only distilled water or good quality drinking water. NEVER add additional acid or other chemicals to battery after initial activation.
2. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific gravity is less than 1.225, remove battery and recharge.
3. Coat the terminals and exposed wiring with a thin coat of grease or petroleum jelly for longer service and protection against electrolyte corrosion.
4. The battery should be kept clean. Any deposits of acid should be neutralized with soda and water. Be careful not to get this solution in the cells.

BATTERY STORAGE

1. Charge battery using normal methods. NEVER store discharged battery as it will not recover.
2. When storing battery for extended periods, disconnect battery cables. Removing battery from unit is recommended.
3. Store in cold, dry place.
4. Recharge battery whenever the specific gravity is less than 1.225, before returning to service, or every two months, whichever occurs first.

COMMON CAUSES FOR BATTERY FAILURE ARE:

1. Overcharging
2. Undercharging
3. Lack of water
4. Loose hold downs and/or corroded connections
5. Excessive loads
6. Battery electrolyte substitutes
7. Freezing of electrolyte

NOTE: *THESE FAILURES DO NOT CONSTITUTE WARRANTY.*

BATTERY REMOVAL OR INSTALLATION

WARNING: When removing the battery, follow this order of disassembly to prevent the screwdriver from shorting against the frame.

1. Remove the Negative cable.
2. Remove the Positive cable.

To install the battery:

1. Attach the Positive cable.
2. Attach the Negative cable.

JUMP STARTING

1. Attach the first jumper cable from the Positive terminal of the good battery to the Positive terminal of the dead battery.
2. Attach the second jumper cable from the Negative terminal of the good battery to the FRAME OF THE UNIT WITH THE DEAD BATTERY.

WARNING: Failure to use this starting procedure could cause sparking, and the gas in either battery could explode.

TIRES

Recommended operating tire pressure is approximately 12 p.s.i. (check sidewall of tire for tire manufacturer's recommended pressure). Maximum tire pressure under any circumstances is 30 p.s.i. Equal tire pressure should be maintained on all tires.

When installing a tire to the rim, be certain rim is clean and free of rust. Lubricate both the tire and rim generously. Never inflate to over 30 p.s.i. to seat beads.

WARNING: Excessive pressure (over 30 p.s.i.) when seating beads may cause tire/rim assembly to burst with force sufficient to cause serious injury.

DRIVE BELT REMOVAL AND REPLACEMENT

NOTE: *It is recommended that the entire instructions on belt removal and replacement be read before changing the belts.*

1. Disconnect the spark plug wire and ground it against the engine.
2. Remove the deck as described in the separate deck manual.
3. Unhook the idler spring from the lawn tractor frame. See figure 15. Loosen the bolt which secures the belt keeper to the idler pulley.

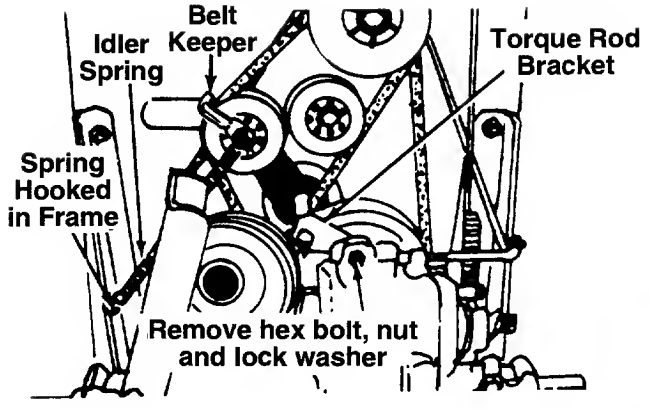


FIGURE 15.

4. Remove the hex bolt, nut and lock washer at the torque rod bracket and transaxle. See figure 16.
5. Remove the hex bolt which holds the torque rod bracket to the torque rod, and remove bracket. See figure 16.

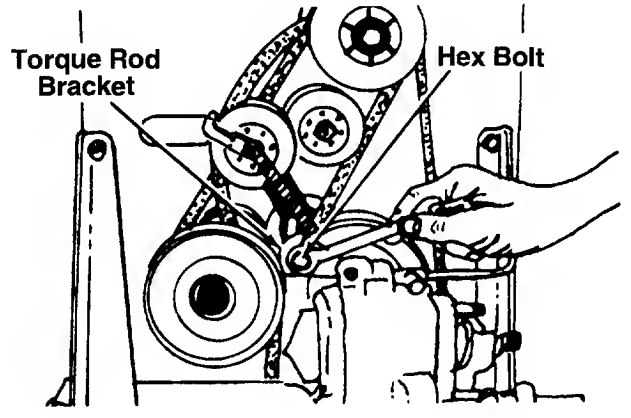


FIGURE 16.

6. Slip the "V"-belt off the variable speed pulley and transaxle pulley. See figure 17.

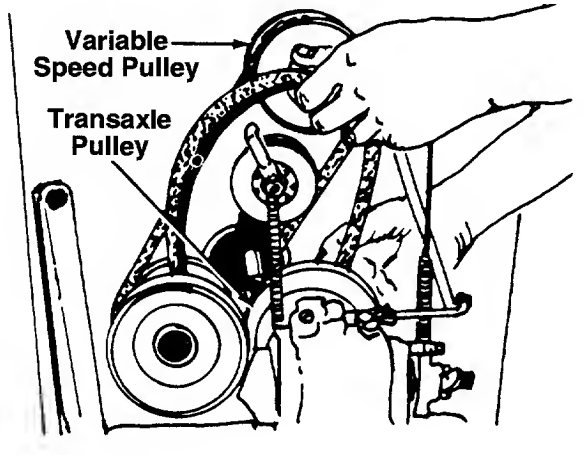


FIGURE 17.

7. Remove two hex bolts, nuts and lock washers from the engine pulley belt guard at lawn tractor frame to allow the engine pulley belt guard to drop down out of the way. See figure 18.

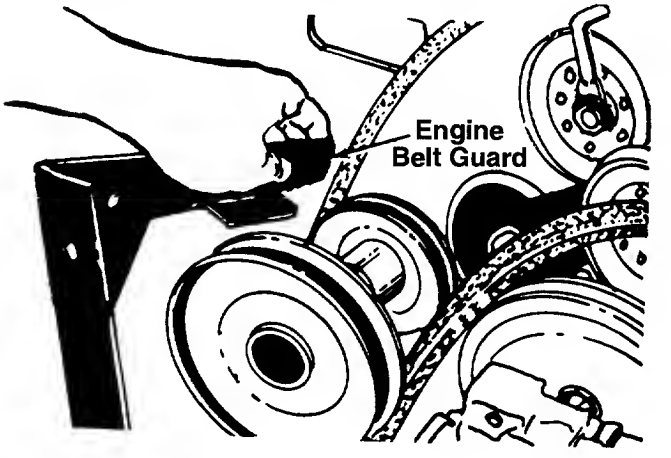


FIGURE 18.

8. Remove the idler pulley by removing the hex lock nut. See figure 19.

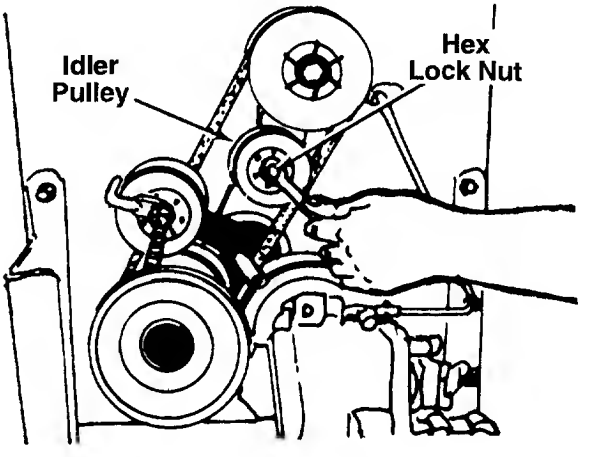


FIGURE 19.

9. Remove and replace the "V"-belt. See figure 20.

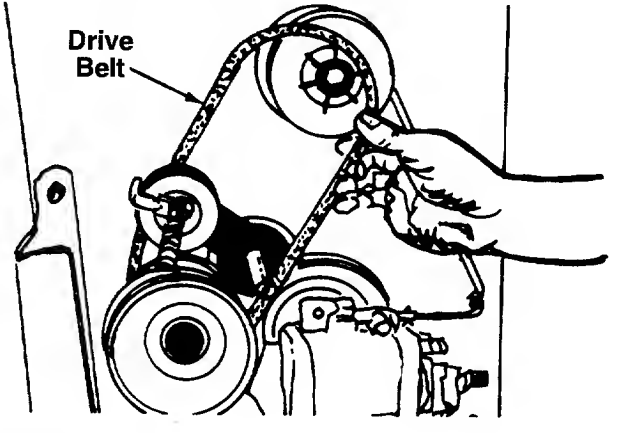


FIGURE 20.

10. Upon reassembly of idler pulley, be certain the hub side of idler goes against the idler bracket. See figure 21.

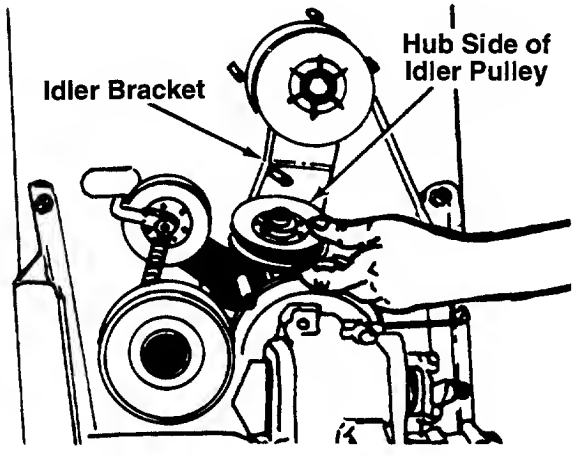


FIGURE 21.

11. When sliding the idler pulley on the idler bracket, be certain the belt is between the pulley and guide pin. See figure 22.

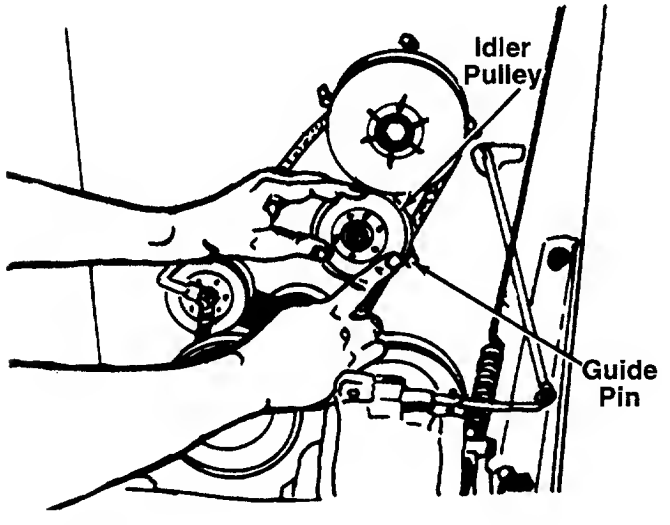


FIGURE 22.

12. Reverse the above steps (paying close attention to steps 10 and 11) when reassembling the new belts.

NOTE: *Be certain all belts are inside belt guards and keepers. Also, be sure to reassemble the safety wire at the deck chute.*

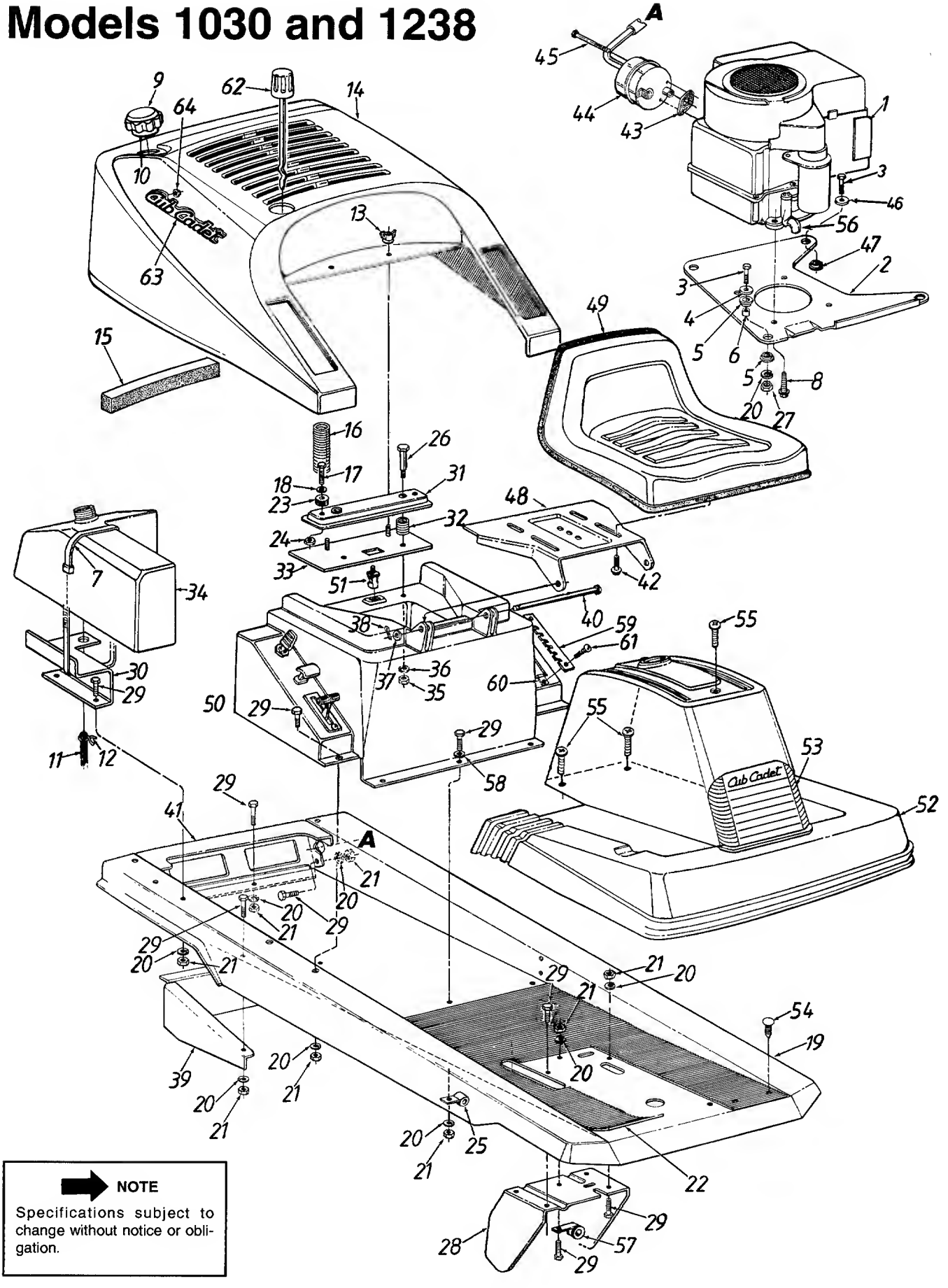
OFF-SEASON STORAGE

If the machine is to be inoperative for a period longer than 30 days, prepare for storage as follows.

1. Clean the engine and the entire unit thoroughly.
2. Lubricate all lubrication points. Wipe the entire machine with an oiled rag to protect the surfaces.
3. Refer to the engine manual for correct engine storage instructions. The engine must be completely drained of fuel to prevent gum deposits from forming on essential carburetor parts, fuel lines and fuel tanks.
4. Refer to battery storage instructions on page 13.
5. Store unit in a clean, dry area. Do not store next to corrosive materials, such as fertilizer.

NOTE: *When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rustproof the equipment. Using a light oil or silicone, coat the equipment, especially any chains, springs, bearings and cables.*

Models 1030 and 1238



Model 1030 and 1238

PARTS LIST FOR MODELS 1030 AND 1238 LAWN TRACTORS

REF. NO.	PART NO.	CODE	DESCRIPTION
1	—		Engine
2	15572A		Engine Mounting Plate
3	710-0158		Hex Bolt 5/16-24 x 1.25" Lg.
4	736-0231		Fl-Wash. .33" I.D. x 1.125" O.D.
5	722-0153		Engine Mounting Grommet
6	750-0539		Spacer .315" I.D. x .5" O.D.
7	726-0209		Cable Tie 30.6" Lg.
8	710-0502A		Hex Wash. Hd. Self-Tap Scr. 3/8-16 x 1.25" Lg.
9	751-3100		Gas Cap
11	751-0535-15		Gas Line—15" Lg.
12	726-0205		Hose Clamp
13	712-0397		Wing Nut 1/4-20 Thd.
14	603-0014	N	Rear Engine Cover (1030)
	603-0015	N	Rear Engine Cover (1238)
15	722-3013	N	Foam Strip—2 Req'd.
16	732-3075	N	Compression Spring
17	710-3038		Hex Bolt 5/16-18 x 7/8" Lg. (Gr. 5)
18	736-0159		Fl-Wash. .344" I.D. x .875"
19	17671A	498	Main Frame
20	736-0119		L-Wash. 5/16" I.D.*
21	712-0267		Hex Nut 5/16-18 Thd.*
22	735-3032		Foot Pad
23	722-0160		Elastemer Bushing
24	712-3009		Hex Cent. L-Nut 5/16-18 Thd. (Gr. 5)
25	726-0175		Clamp
26	738-0145		Shld. Bolt .5" Dia. x .84
27	712-0123		Hex Nut 5/16-24 Thd.
28	17678		Clutch Pedal Brkt. Ass'y.
29	710-0118		Hex Bolt 5/16-18 x .75" Lg.*
30	703-1861		Fuel Tank Support
31	703-1813		Seat Spring Channel
33	703-1863		Hold Down Brkt. Ass'y.
34	751-3084		Fuel Tank
35	712-0798		Hex Nut 3/8-16 Thd.*
36	736-0169		L-Wash. 3/8" I.D.*
37	736-0226		Fl-Wash. .469" I.D. x .88" O.D.
38	714-0111		Cotter Pin 3/32" Dia. x 1.0" Lg.
39	15552		Transaxle Support Assembly
40	747-3152		Seat Pivot Rod
41	15571	498	Rear Frame Panel
42	710-0623		Hex Wash. Hd. Tap Scr. 3/8-16 x .75" Lg.
43	721-0208		Exhaust Gasket
44	751-0413		Muffler
	751-0426		Spark Arrester for Muffler (Optional)
45	738-0636		Shld. Bolt 7/16" Dia. x 3-5/8"
46	736-0343		Fl-Wash. .33" I.D. x 1.125" O.D.
47	736-0392		Flange Washer .32" I.D. x .5"
48	703-2030	N	Seat Pivot Bracket
49	757-0345		Seat Ass'y.
50	731-3125		Seat Support
51	725-1441		Safety Switch (Seat)
52	731-3127A		Front Console
53	731-3128		Headlight Lens
54	726-3046		Ratchet Fastener .25" Dia. x .75" Lg.
55	710-0748		Pan Hd. Tap Scr. #12 x .5" Lg.
56	737-0125		90° Elbow Male to Female
57	726-3008		Cable Clip
58	736-0275		Fl-Wash. .34" I.D. x .68" O.D.
59	703-2026		Lift Reinforcement
60	712-0147		Speed Nut #10-24 Thd.
61	710-0943		Fl-Counter Sunk Scr. #10-24 x 1.5" Lg.
62	731-3113	N	Oil Fill Extension
63	779-3536	N	Logo
64	726-3047		Push Nut

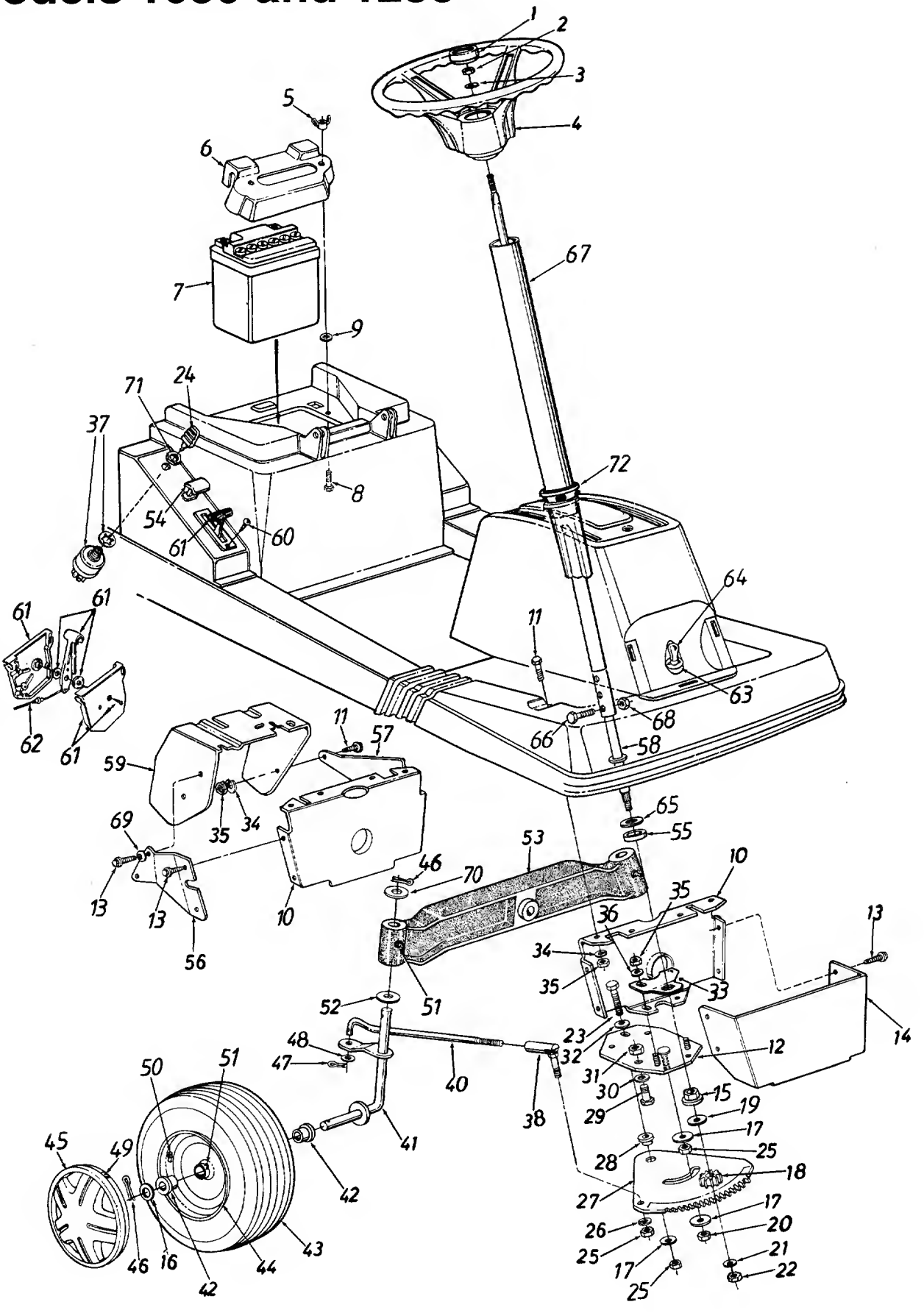
*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

CODE: N notates a **new part** (not previously existing). A three digit number is the **color code** (use if color or finish is important when ordering parts) as shown below. [i.e., (part no.)-498 for Yellow Finish].

498—Yellow
499—Beige

Part No.	Description
777-8986	Engine Cover Label Set
759-3578	Decal Kit—Seat Support
759-3579A	Decal Kit—Front Console
779-3537	Steering Cap Label

Models 1030 and 1238



Models 1030 and 1238

PARTS LIST FOR MODELS 1030 AND 1238 LAWN TRACTORS

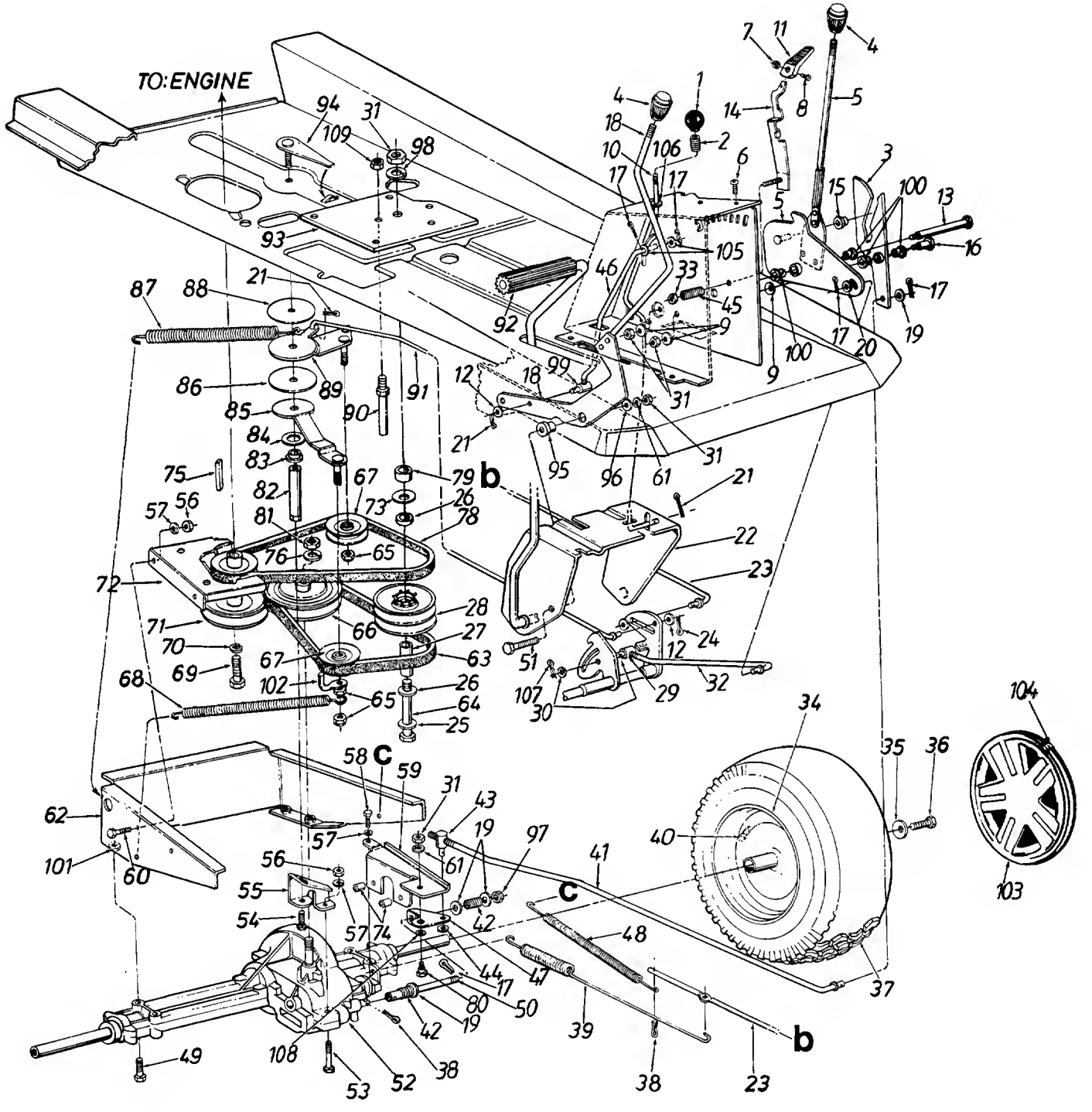
REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	731-0220		Steering Wheel Cap	36	736-0271		Spr. Wash. .32" I.D. x .62" O.D.
2	712-0237		Hex L-Nut 5/16-24 Thd.	37	725-3163		Ignition Switch
3	736-0242		Bell-Wash. .345" I.D. x .88" O.D.	38	723-0156		Ball Joint Ass'y.
				40	747-0417		Steering Tie Rod
4	731-0806A		Steering Wheel Ass'y.	41	703-2028		Front Axle Ass'y.—R.H.
5	712-0113		Wing Nut 1/4-20 Thd. (Nylon)		703-2027		Front Axle Ass'y.—L.H. (Not Shown)
6	731-0708		Battery Hold Down Cover				
7	725-0514A		12V Battery	42	†		Wheel Bearing
8	710-0136		Hex Bolt 1/4-20 x 1.75" Lg.	43	†		Wheel Ass'y. Comp.
9	726-0231		Push On Retaining Ring	44	†		Rim Only
10	15613A		Pivot Bar Bracket	45	734-1610		Hub Cap
11	710-0118		Hex Bolt 5/16-18 x .75" Lg.*	46	714-0470		Cotter Pin 1/8" Dia. x 1.25" Lg.
12	17653A		Steering Gear Support Brkt. Ass'y.	47	714-0115		Cotter Pin 1/8" Dia. x 1.0" Lg.
				48	736-0300		Fl-Wash. .385" I.D. x .87" O.D.
13	710-0776A		Hex Wash. Hd. AB-Tap Scr. 1/4 x .62" Lg.	49	727-0425A	N	Spring Clip
				50	734-0255		Air Valve
14	15608		Steering Gear Cover	51	†		Grease Fitting
15	741-0225		Hex Flange Bearing	52	736-0188		Fl-Wash. .76" I.D. x 1.49" O.D.
16	736-0285		Fl-Wash. .635" I.D. x 1.585"	53	719-3081		Front Pivot Axle
17	736-0320		Fl-Wash. .385" x 1.37" O.D.	54	746-3021		Choke Control
18	748-0290		Steering Pinion Gear	55	750-0532		Spacer .985" I.D. x 1.25"
19	736-0272		Fl-Wash. .510" I.D. x 1.0" O.D.	56	15694A		Reinforcement Brkt.—R.H.
20	712-0116		Hex L-Nut 3/8-24 Thd.	57	15699A		Reinforcement Brkt.—L.H.
21	736-0275		Fl-Wash. .34" I.D. x .68" O.D.	58	738-3089		Steering End Adapter
22	712-0123		Hex Nut 5/16-24 Thd.	59	17678		Clutch Pedal Brkt. Ass'y.
23	710-0459		Hex Bolt 3/8-24 x 1.5" Lg. (Gr. 5)	60	710-0779A		Truss Mach. AB-Tap Scr. #10 x .5" Lg.
24	759-3476A		Ignition Key Set	61	831-0823A		Throttle Control Box Ass'y.
25	712-0241		Hex Nut 3/8-24 Thd.	62	746-0500		Throttle Control Wire 26" Lg.
26	736-0169		L-Wash. 3/8" I.D.*	63	725-1058A		Headlight Socket
27	717-0472A		Steering Gear Segment	64	725-0963		Lamp
28	738-0541		Shld. Spacer	65	736-0187		Fl-Wash. .64" I.D. x 1.24"
29	710-0689		Hex Bolt (Nylon) 1/2-13 x .75" Lg.	66	710-0958		Hex Bolt 1/4-20 x 1.25" Lg.
				67	703-1911		Steering Shaft Ass'y.
30	736-0160		Fl-Wash. .53" I.D. x .93" O.D.	68	712-0324		Hex L-Nut 1/4-20 Thd.
31	712-0206		Hex Nut 1/2-13 Thd.*	69	736-0242		Bell-Wash. .345" I.D. x .88" O.D.
32	736-0105		Bell-Wash. .385" I.D. x .88"	70	736-0315		Fl-Wash. .75" I.D. x 1.5" O.D.
33	17656A		Steering Gear Adjuster	71	712-3013		Ignition Switch Nut
34	736-0119		L-Wash. 5/16" I.D.*	72	741-3034		Steering Cover Brg.
35	712-0267		Hex Nut 5/16-18 Thd.*				

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

† FRONT WHEEL CHART

Description	12 x 5 Bronze Brg.	12 x 5 Ball Brg.
Wheel Assembly Comp.	734-3089	634-3000
Tire Only	734-3088	734-3088
Rim Only	734-1455	734-1683
Bearing	741-0353	741-0569
Grease Fitting	737-0280	—

Models 1030 and 1238

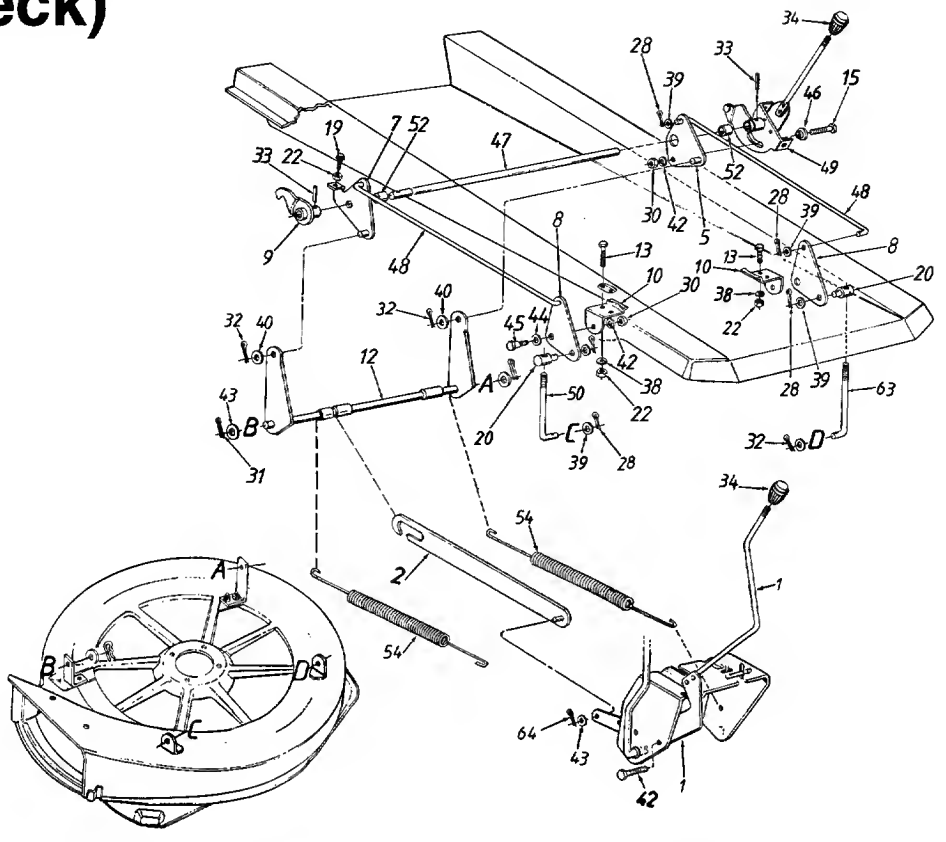


Models 1030 and 1238

PARTS LIST FOR MODELS 1030 AND 1238 LAWN TRACTORS

REF. NO.	PART NO.	CODE	DESCRIPTION
1	720-0187		Ball Knob 1/4-20 Thd.
2	732-0437		Compression Spring
3	703-1903		Cam Follower Ass'y.
4	720-0232		Shift Knob
5	703-1913		Shift Cam w/Handle
6	710-0748		Pan Hd. Tap Scr. #12 x .5" Lg.
7	712-0142		Hex Nut #8-32 Thd.
8	710-3217		Truss Hd. Scr. #8-32 x .38" Lg.
9	736-0219		Bell-Wash. .4" I.D.
10	747-3143		Parking Brake Rod
11	731-3106A		Knob
12	736-0275		Fl-Wash. .34" I.D. x .68" O.D.
13	738-3088		Shld. Bolt .5" Dia. x 3.9" Lg.
14	703-1919		Speed Control Brkt. Ass'y.
15	748-0241		Shld. Spacer .38" I.D.
16	738-0297		Shld. Bolt. .498" Dia. x .71"
17	714-0144		Cotter Pin 1/8" Dia. x 1" Lg.
18	703-1914		Deck Engagement Brkt. w/Handle
19	736-0185		Fl-Wash. .406" I.D. x .75"
20	736-0264		Fl-Wash. .344" I.D. x .62"
21	714-0507		Cotter Pin 3/32" Dia. x .75"
22	17678A	N	Clutch Pedal Brkt. Ass'y.
23	747-0431		Brake Rod
24	714-0115		Cotter Pin 1/8" Dia. x 1.0"
25	736-0247		Fl-Wash. .406" I.D. x 1.125"
26	741-0405		Thrust Brg. .56" I.D.
27	750-0705		Spacer Sleeve 2.71" Lg.
28	717-0884		Variable Speed Pulley Ass'y.
29	711-0677		Ferrule
30	736-0195		Fl-Wash. .344" I.D. x .88"
31	712-0798		Hex Nut 3/8-16 Thd.*
32	747-3147		Speed Control Rod
33	712-0273		Hex Nut 5/16-24 Thd.
34	734-0594		Rim Only
35	736-0242		Bell-Wash. .345" I.D. x .88"
36	710-0627		Hex L-Bolt 5/16-24 x .75" Lg.
37	734-0591		Wheel Ass'y. Comp.
	734-0275		Tire Only
38	714-0470		Cotter Pin 1/8" Dia. x 1.25"
39	732-0389		Extension Spring 17" Lg.
40	734-0255		Air Valve
41	747-3150A	N	Shift Rod
42	732-3065		Compression Spring 1.2" Lg.
43	711-0198		Adjustment Ferrule
44	736-0344		Fl-Wash. .39" I.D. x 1.0"
45	732-0430		Compression Spring 1.04" Lg.
46	747-3151		Reverse Lockout Rod
47	703-1908		Gear Shift Brkt.
48	732-0487		Extension Spring 8.25" Lg.
49	710-0378		Hex Bolt 5/16-18 x 2.5" Lg.
50	711-3300		Shift Fork Extension (618-3004 Trans.)
	711-3333		Shift Fork Extension (618-3034 Trans.)
51	710-0342		Hex Bolt 3/8-16 x 1.25" Lg.
52	—		Transaxle (See Breakdowns)
53	710-0136		Hex Bolt 1/4-20 x 1.75" Lg.*
54	710-0180		Hex Bolt 3/8-24 x .75" Lg.
55	15564A		Torque Rod Bracket
56	712-0287		Hex Nut 1/4-20 Thd.*
57	736-0329		L-Wash. 1/4" I.D.*
58	710-0965		Self-Tap Mach. Scr. 1/4-20 x 1.37" Lg.
59	703-1909		Gear Shift Support Brkt.
60	710-0597		Hex Bolt 1/4-20 x 1.0" Lg.
61	736-0169		L-Wash. 3/8" I.D.*
62	15552		Transaxle Support Ass'y.
63	754-0240		"V"-Belt
64	710-0693		Hex Bolt 3/8-16 x 4.5" Lg.
65	712-0116		Hex L-Nut 3/8-24 Thd.
66	656-0002		"V"-Pulley
67	756-0116		"V"-Belt Idler
68	732-0308		Ext. Spring 6.37" Lg.
69	710-0314		Hex Bolt 7/16-20 x 1.0" Lg.
70	736-0171		L-Wash. 7/16" I.D.*
71	756-0391		Engine Pulley (30" Deck)
	756-0512		Engine Pulley (38" Deck)
72	15623		Upper Belt Guard
73	712-0219		Bell-Wash. .40" I.D. x 1.12" O.D.
74	750-0686		Spacer .256" I.D. x .5" O.D.
75	714-0114		Sq. Key 1/4" x 2.0" Lg.
76	736-0427		Bell-Wash. .567" I.D. x 1.125"
78	754-0241		"V"-Belt
79	750-0706		Spacer .38" I.D. x 1.0" O.D.
80	738-0147		Shld. Bolt .5" Dia. x .170" Lg.
81	712-3035		Hex Jam Nut 9/16-18 Thd.
82	711-0676		Torque Rod
83	748-0294		Flange Bearing .378" I.D.
84	736-0187		Fl-Wash. .64" I.D. x 1.24" O.D.
85	15569B		Idler Bracket Ass'y.
86	736-0283		Thrust Washer .635" I.D.
87	732-0556		Extension Spring 7.58" Lg.
88	736-0284		Thrust Wash. .385" I.D.
89	15585		Idler Bracket Ass'y. For Clutch
90	711-0640		Belt Guard Pin 3/8-16 x 2.75" Lg.
91	747-0560		Clutch Rod
92	735-0196		Foot Pad
93	783-0005		Variable Speed Mtg. Plate
94	15642		Weld Bolt Brkt. Ass'y.
95	738-0541		Shld. Spacer .622" Dia. x .218"
96	736-0133		Fl-Wash. .406" I.D. x 1.25" O.D.
97	712-0375		Hex Cent. L-Nut 3/8-16 Thd.
98	736-0217		L-Wash. 3/8" I.D. (Heavy Duty)
99	711-0628		Ferrule
100	741-0491		Flanged Nyliner Brg.
101	712-0265		Hex Sems Nut 5/16-18 Thd.
102	747-0758		Belt Guard
103	734-1614		Hub Cap
104	727-0425A	N	Spring Clip
105	736-0159		Fl-Wash. .344" I.D. x .875" O.D.
106	736-0142		Fl-Wash. .281" I.D. x .5" O.D.
107	714-0104		Intern. Cotter Pin 1-1/8" Lg.
108	736-0108		Fl-Wash. .510" I.D. x .75" O.D.
109	712-0181		Hex Top L-Jam Nut 3/8-16 Thd.

Model 1030
(30" Deck)

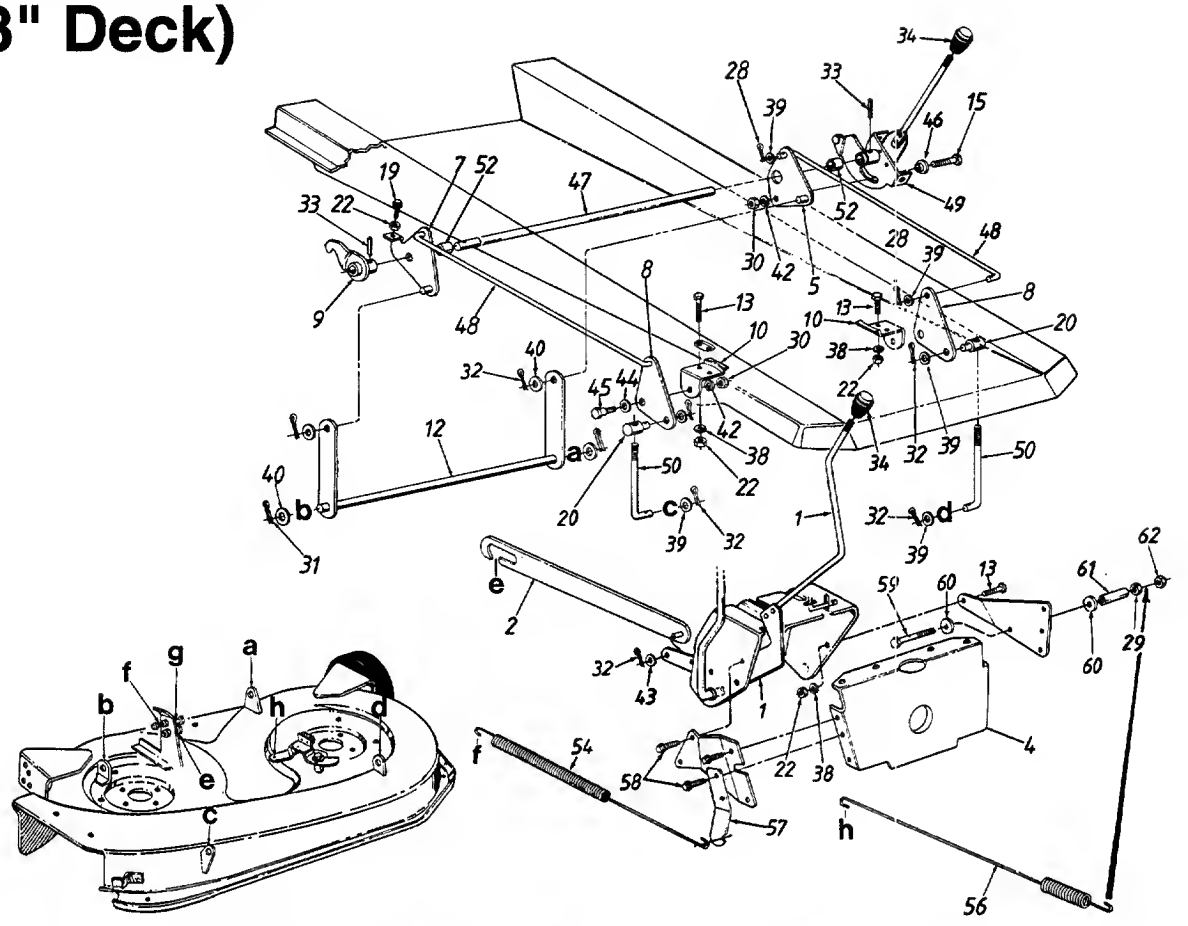


PARTS LIST FOR MODEL 1030 LAWN TRACTOR WITH 30" DECK

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	703-1914		Deck Engagement Brkt. w/Handle	33	715-0114		Spring Pin Spir. 1/4" Dia.
				34	720-0232		Knob
2	703-1923		Deck Drive Control Brkt. Ass'y.	38	736-0119		L-Wash 5/16" I.D.*
5	17108		Deck Lift Brkt. Ass'y.	39	736-0140		Fl-Wash. .385 I.D. x .62
7	17111		Deck Lift Brkt. Ass'y.	40	736-0156		Fl-Wash. .635 I.D. x 1.12
8	17112		Deck Lift Bracket	42	736-0169		L-Wash. 3/8" I.D.*
9	17114A		Deck Lift Float Brkt Ass'y.	43	736-0300		Fl-Wash. .385 I.D. x .87 O.D.
10	17115		Deck Lift Pivot Brkt.	44	736-0232		Spring Washer .530 I.D.
12	603-0012		Deck Link Ass'y.	45	738-0183		Shld. Bolt .500" Dia. x .215"
13	710-0118		Hex Bolt 5/16-18 x .75" Lg.*	46	738-0347		Shld. Spacer .625" I.D.
15	710-0253		Hex Bolt 3/8-16 x 1" Lg.*	47	738-0550		Rear Hgt. Adj. Shaft
19	710-0817		Hex Wash.-Tap Scr. 5/16-18 x 1.25" Lg.	48	747-0557		Connecting Rod
				49	703-1915		Deck Lift Handle Ass'y.
20	711-0198		Ferrule	50	747-0677		J-Bolt 3/8-24 x 5.25" Lg.
22	712-0267		Hex Nut 5/16-18 Thd.*	52	750-0707		Spacer .885 I.D.
28	714-0507		Cotter Pin 3/32" Dia.	54	732-0530		Ext. Spring 13.25" Lg.
30	712-0798		Hex Nut 3/8-16 Thd.*	63	747-0690		J-Bolt 3/8-24 x 5.4" Lg.
31	714-0101		Internal Cot. Pin 1/2" Dia.	64	714-0115		Cotter Pin 1/8" Dia.
32	714-0145		Int. Cot. Pins 3/8" Dia.				

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

Model 1238
(38" Deck)

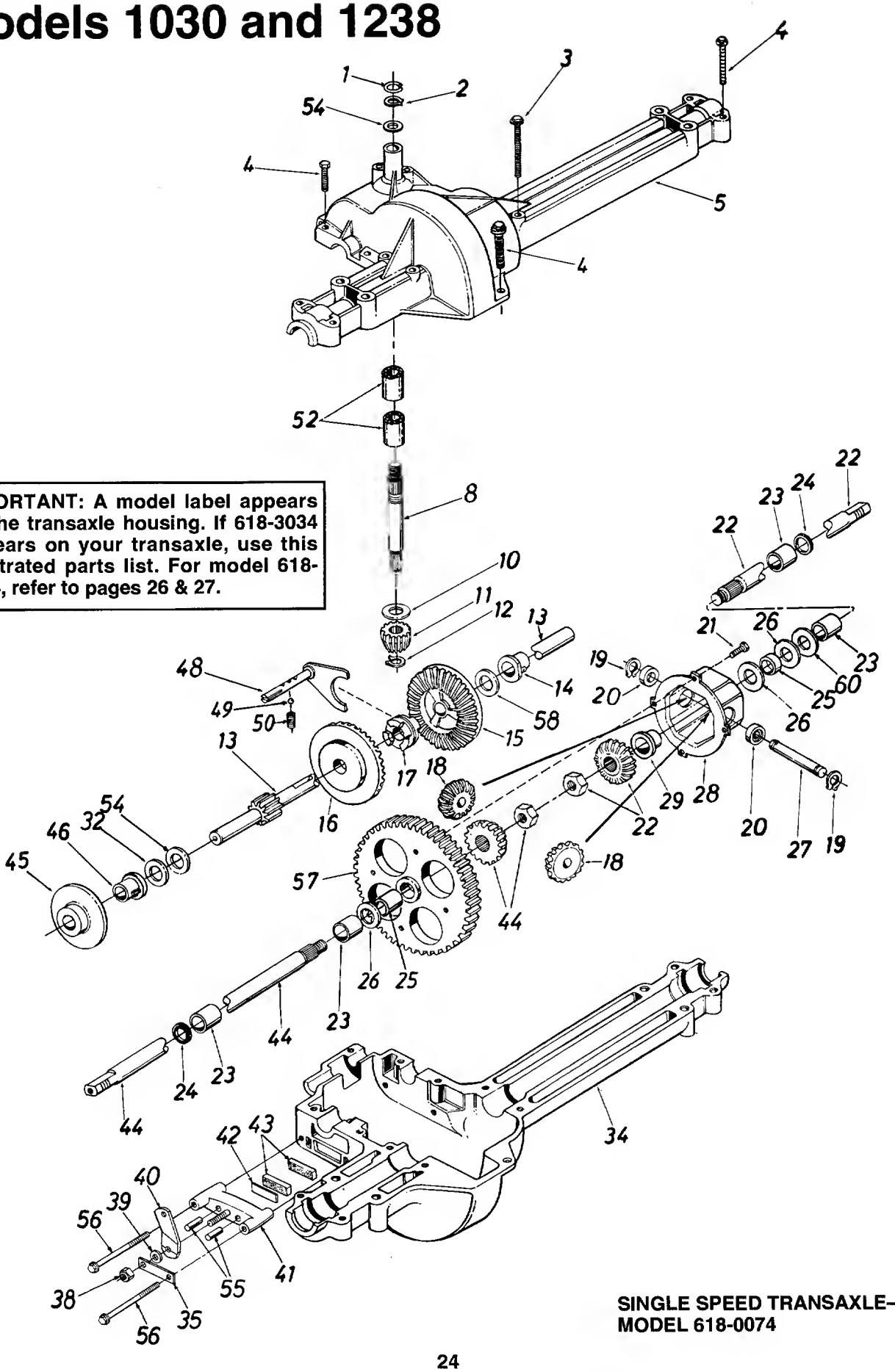


PARTS LIST FOR MODEL 1238 LAWN TRACTOR WITH 38" DECK

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	703-1914		Deck Engagement Brkt. w/Handle	39	736-0140		Fl-Wash. .385 I.D. x .62
				40	736-0156		Fl-Wash. .635 I.D. x 1.12
2	15644A		Deck Drive Control Brkt. Ass'y.	42	736-0169		L-Wash. 3/8" I.D.*
4	15613A		Pivot Bar Brkt.	43	736-0300		Fl-Wash. .385 I.D. x .87 O.D.
5	17108		Deck Lift Brkt. Ass'y.	44	736-0232		Spring Washer .530 I.D.
7	17111		Deck Lift Brkt. Ass'y.	45	738-0183		Shld. Bolt .500" Dia. x .215"
8	17112		Deck Lift Bracket	46	738-0347		Shld. Spacer .625" I.D.
9	17114A		Deck Lift Float Brkt Ass'y.	47	738-0550		Rear Hgt. Adj. Shaft
10	17115		Deck Lift Pivot Brkt.	48	747-0557		Connecting Rod
12	17123		Stabilizer Shaft Ass'y.	49	703-1915		Deck Lift Handle Ass'y.
13	710-0118		Hex Bolt 5/16-18 x .75" Lg.	50	747-0690		J-Bolt 5.4" Lg.
15	710-0253		Hex Bolt 3/8-16 x 1" Lg.	52	750-0707		Spacer .885 I.D.
19	710-0817		Hex Wash.-Tap Scr. 5/16-18 x 1.25" Lg.	54	732-0531		Ext. Spring 22.05" Lg.
				56	732-0575		Ext. Spring 15-5/8" Lg. (32" Deck)
20	711-0198		Ferrule				
22	712-0267		Hex Nut 5/16-18 Thd.*		732-0587		Ext. Spring 173/4" Lg. (38" Deck)
28	714-0507		Cotter Pin 3/32" Dia.	57	17310		Spring Anchor
29	712-0287		Hex Nut 1/4-20 Thd.	58	710-0776		Hex Wash. Hd. AB-Tap Scr. 1/4 x .62" Lg.
30	712-0798		Hex Nut 3/8-16 Thd.				
31	714-0101		Internal Cot. Pin 1/2" Dia.	59	710-0102		Hex Bolt 1/4-20 x 2.5" Lg.
32	714-0145		Int. Cot. Pins 3/8" Dia.	60	736-0176		Fl-Wash. .25" I.D. x .93" O.D.
33	715-0114		Spring Pin Spir. 1/4" Dia.	61	750-0583		Spacer .255" I.D.
34	720-0232		Knob	62	712-0291		Hex L-Nut 1/4-20 Thd.
38	736-0119		L-Wash 5/16" I.D.				

Models 1030 and 1238

IMPORTANT: A model label appears on the transaxle housing. If 618-3034 appears on your transaxle, use this illustrated parts list. For model 618-3004, refer to pages 26 & 27.



SINGLE SPEED TRANSAXLE—L.H.
MODEL 618-0074

Models 1030 and 1238

PARTS LIST FOR
SINGLE SPEED TRANSAXLE LEFT HAND 618-0074

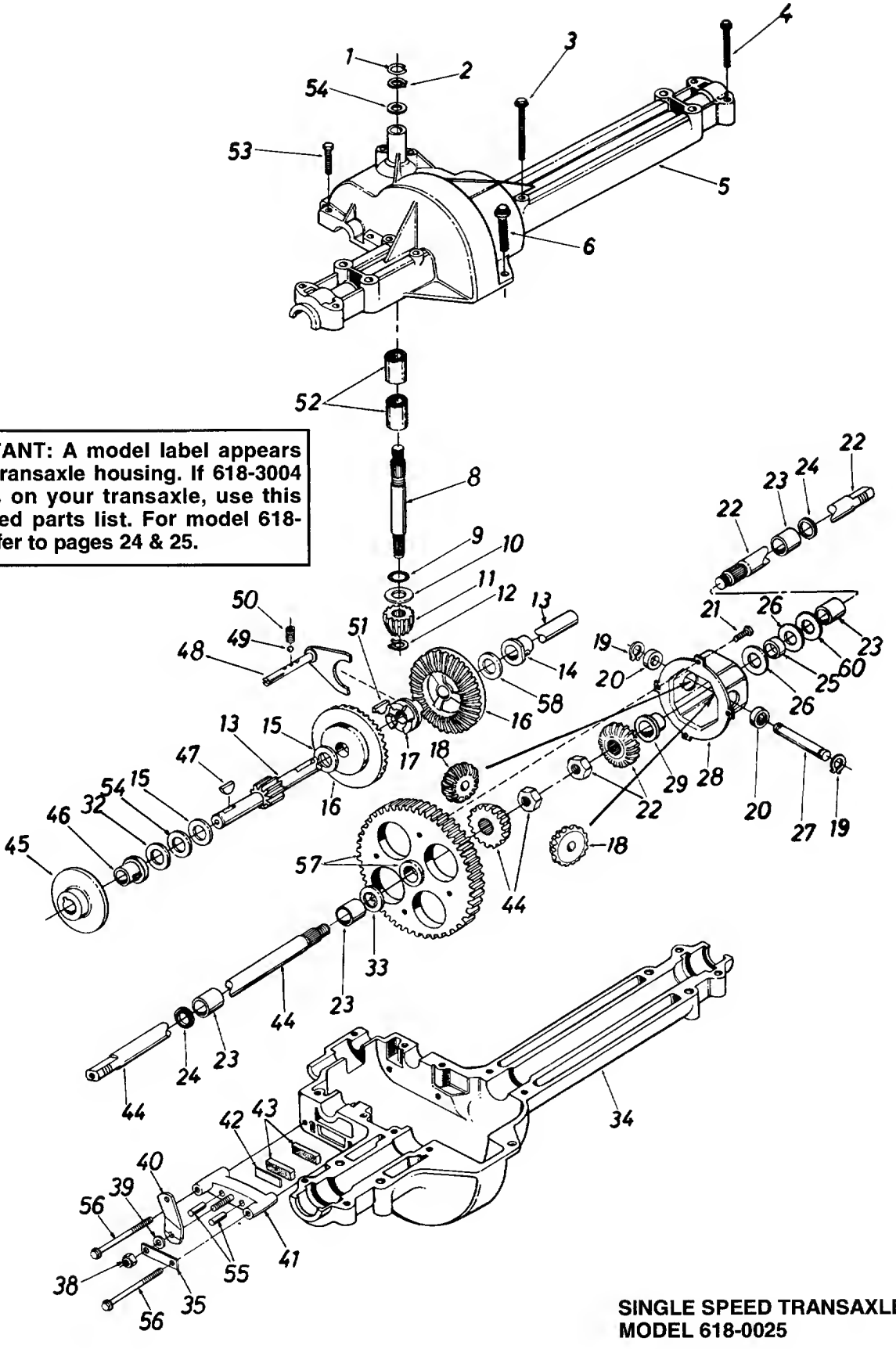
REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	732-0614		Wire Ring	32	**		Washer (See Below)
2	716-0171		Retaining Ring	34	719-0313	N	Lower Housing
3	710-0854		Hex Bolt 1/4-20 x 1.75" Lg.*	35	718-0150		Anti-Rotation Brkt.
4	710-0809		Hex Tap Scr. 1/4-20 x 1.25" Lg.	38	712-0273		Hex Nut 5/16-24 Thd.
5	719-0314	N	Upper Housing	39	736-0371		Fl-Wash. .344" I.D. x .875" O.D.
8	711-0861		Input Shaft				
10	736-0335		Thrust Washer 5/8" I.D. x 1.25" O.D.	40	717-0772A	N	Actuating Arm
				41	761-0198		Brake Yoke
11	717-0633		Pinion Input 14T	42	717-0682		Puck Plate
12	716-0171		Retaining Ring	43	717-0678		Brake Puck
13	711-0942	N	Drive Shaft—L.H. Brake	44	717-0765		Axle L.H. Ass'y.
14	741-0336		Flange Brg. 5/8" I.D. x 3/4" Lg.*	45	761-0202		Brake Disc
				46	741-0337		Flange Bearing 5/8" I.D. x 15/16" Lg.
15	717-1362	N	Bevel Gear 42T—Small I.D.				
16	717-1363	N	Bevel Gear 42T—Large I.D.	48	611-0011	N	Shift Fork Ass'y.—1/2" Dia.
17	718-0228	N	Clutch Collar	49	741-0862		Ball Detent .250" Dia.
18	717-1020		Miter Gear 15T (H.D.)	50	732-0863		Spring Detent
19	716-0184		Snap Ring	52	741-0335		Needle Brg. 5/8" I.D. x 1/2" Lg.
20	741-0589		Thrust Bearing				
21	710-0862A		Pan Head Scr. 1/4-20 x .50" Lg. w/Patch	54	736-0349		Fl-Wash. 5/8" I.D. x 1" O.D. x .020 Thk.
22	717-0766		Axle R.H. Ass'y.	55	741-0343		Actuating Pin 5/16" Dia.
23	741-0340		Sleeve Bearing 3/4" I.D. x 1.0" Lg.	56	710-1206		Hex Wash Hd. Self-Tap Scr. 1/4-20 Thd.
24	721-0179		Oil Seal 3/4" I.D.	57	717-1364	N	Differential Gear 58T
25	750-0767	N	Axle Spacer	58	736-0349		Fl-Wash. 5/8" I.D. x 1" O.D. x .020 Thk.
26	736-0445		Fl-Wash. .760" I.D. x 1.5" O.D. x .6" Thk.		736-0495		Thrust Wash. 5/8" I.D. x 1" O.D. x .025" Thk.
27	711-0918		Cross Shaft				
28	717-1252		Differential Can Ass'y.	60	**		Washer (See Below)
29	—		Part of Ref. 28	—	737-0148		Grease—Shell (10 oz.)

*Ref. No. 32 736-0495 Thrust Wash. 5/8" I.D. x 1" O.D. x .025" Thk.
736-0336 Fl-Wash. 5/8" I.D. x 1" O.D. x .030" Thk.
736-0494 Thrust Wash. 5/8" I.D. x 1" O.D. x .035" Thk.
736-0337 Fl-Wash. 5/8" I.D. x 1" O.D. x .040" Thk.

*Ref. No. 60 736-0492 Fl-Wash. .76" I.D. x 1.5" O.D. x .010" Thk.
736-0493 Fl-Wash. .76" I.D. x 1.5" O.D. x .020" Thk.
736-0351 Fl-Wash. .76" I.D. x 1.5" O.D. x .030" Thk.
736-0445 Fl-Wash. .76" I.D. x 1.5" O.D. x .060" Thk.

Models 1030 and 1238

IMPORTANT: A model label appears on the transaxle housing. If 618-3004 appears on your transaxle, use this illustrated parts list. For model 618-3034, refer to pages 24 & 25.



SINGLE SPEED TRANSAXLE—L.H.
MODEL 618-0025

Models 1030 and 1238

PARTS LIST FOR
SINGLE SPEED TRANSAXLE LEFT HAND 618-0025

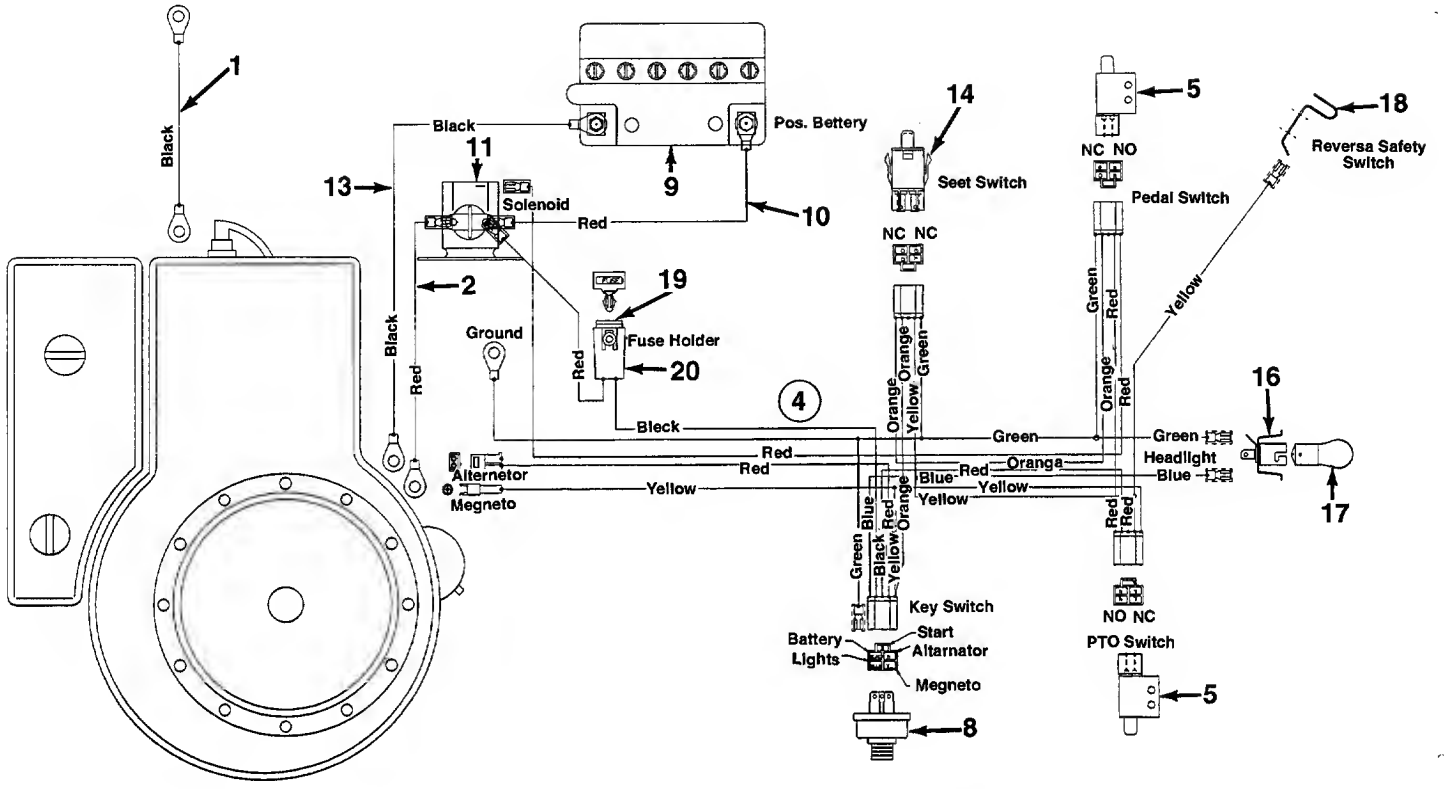
REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	732-0614		Wire Ring	34	719-0303		Lower Housing
2	716-0108		Retaining—Ring	35	718-0150		Anti-Rotation Brkt.†
3	710-0854		Hex Bolt 1/4-20 x 1.75" Lg.*	38	712-0273		Hex Nut 5/16-24 Thd.†
4	710-0809		Hex Tap Scr. 1/4-20 x 1.25" Lg.	39	736-0371		Fl-Wash. .344" I.D. x .875" O.D.†
5	717-0764A		Upper Housing	40	717-0772A	N	Actuating Arm†
6	710-0642		Hex TT-Tap Scr. 1/4-20 x .75" Lg.	41	761-0198		Brake Yoke†
				42	717-0682		Puck Plate†
8	711-0861		Input Shaft	43	717-0678		Brake Puck†
9	721-0178		Square Seal 5/8" I.D.	44	717-0765		Axle L.H. Ass'y.
10	736-0335		Thrust Washer 5/8" I.D. x 1.25" O.D.	45	717-0677		Brake Disc†
				46	741-0337		Flange Bearing 5/8" I.D. x 15/16" Lg.
11	717-0633		Pinion Input 14T				
12	716-0171		Retaining Ring	47	714-0161		Woodruff Key 3/16 x 5/8 HT
13	717-0768		Drive Shaft	48	717-0754		Shift Fork Ass'y.
14	741-0336		Flange Brg. 5/8" I.D. x 3/4" Lg.*	49	741-0862		Ball Detent .250" Dia.
15	736-0335		Fl-Wash. 5/8" I.D. x 1.25"	50	732-0863		Spring Detent
16	717-0757		Bevel Gear 42T	51	714-0169		#9 Hi-Pro Key 3/16" x 3/4" Dia. HT
17	717-0667		Clutch Collar				
18	717-1020		Miter Gear 15T (H.D.)	52	741-0335		Needle Brg. 5/8" I.D. x 1/2" Lg.
19	716-0184		Snap Ring	53	710-0855		Hex Bolt 1/4-20 x 1.00" Lg.
20	741-0589		Thrust Bearing	54	736-0349		Fl-Wash. 5/8" I.D. x 1" O.D. x .020 Thk.
21	710-0862A		Pan Head Scr. 1/4-20 x .50" Lg. w/Patch	55	741-0343		Actuating Pin 5/16" Dia.†
22	717-0766		Axle R.H. Ass'y.	56	710-1206		Hex Wash Hd. Self-Tap Scr. 1/4-20 Thd.†
23	741-0340		Sleeve Bearing 3/4" I.D. x 1.0" Lg.	57	717-0767		Differential Gear 72T Ass'y. w/Bearing
24	721-0179		Oil Seal 3/4" I.D.				
25	750-0827		Axle Spacer	58	736-0349		Fl-Wash. 5/8" I.D. x 1" O.D. x .020 Thk.
26	736-0445		Fl-Wash. .760" I.D. x 1.5" O.D.				
27	711-0918		Cross Shaft		736-0495		Thrust Wash. 5/8" I.D. x 1" O.D. x .025" Thk.
28	717-1252		Differential Can Ass'y.				
29	—		Part of Ref. 28	60	**		Washer (See Below)
32	**		Washer (See Below)	—	737-0148		Grease—Shell (10 oz.)
33	736-0445		Fl-Wash. .760" I.D. x 1.5" O.D.				

**Ref. No. 32 736-0495 Thrust Wash. 5/8" I.D. x 1" O.D. x .025" Thk.
736-0336 Fl-Wash. 5/8" I.D. x 1" O.D. x .030" Thk.
736-0494 Thrust Wash. 5/8" I.D. x 1" O.D. x .035" Thk.
736-0337 Fl-Wash. 5/8" I.D. x 1" O.D. x .040" Thk.

**Ref. No. 60 736-0492 Fl-Wash. .76" I.D. x 1.5" O.D. x .010" Thk.
736-0493 Fl-Wash. .76" I.D. x 1.5" O.D. x .020" Thk.
736-0351 Fl-Wash. .76" I.D. x 1.5" O.D. x .030" Thk.
736-0445 Fl-Wash. .76" I.D. x 1.5" O.D. x .060" Thk.

†Not Part of Transaxle Complete.

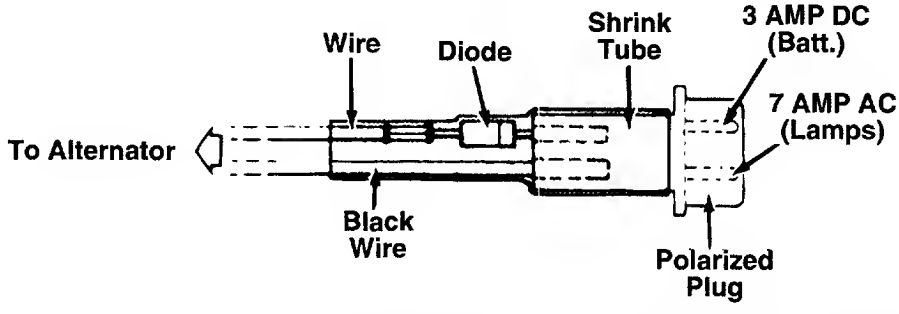
Models 1030 and 1238



PARTS LIST FOR ELECTRICAL SYSTEM
MODELS 1030 AND 1238 LAWN TRACTORS

REF. NO.	PART NO.	CODE	DESCRIPTION
1	725-0977		Elec. Wire 8 Ga. x 11.5" Lg. (Black)
2	725-0424		Elec. Wire 8 Ga. x 15.5" Lg. (Red)
4	629-3000	N	Wire Harness
5	725-3169A		Safety Switch
8	725-3163		Ignition Switch
9	725-0514A		Battery 12V
10	725-0929		Elec. Wire 8 Ga. x 22" Lg. (Red w/Boot)
11	725-1426		Solenoid
13	725-0979		Elec. Wire 8 Ga. x 17" Lg. (Black)
14	725-1441		Seat Switch
16	725-1058A		Headlight Socket
17	725-0963		Lamp
18	725-1303		Safety Switch
19	725-1625		Fuse, Automotive Type 71/2 Amp.
20	729-0207		Fuse Holder
	729-0209		Fuse Holder Mtg. Clip (Not Shown)

TROUBLE SHOOTING GUIDE

TROUBLE	LOOK FOR	REMEDY
Engine will not crank	Battery installed incorrectly	The battery must be installed with the negative terminal, identified at the terminal post by (Neg, N or –), grounded. The positive terminal (Pos, P or +) attaches to the large cable from the solenoid. The small red wire from the fuse holder or circuit breaker is also attached to the positive terminal.
	Blown fuse or circuit breaker	Replace fuse with 71/2 amp. automotive type fuse. Fuses seldom fail without a reason. The problem problem must be corrected. Check for loose connections in the fuse holder. Replace fuse holder if necessary. A dead short may be in the cranking or charging circuit where the insulation may have rubbed through and exposed the bare wire. Replace the wire or repair with electrician's tape if the wire strands have not been damaged. Note: Look for a wire pinched between body panels, burned by the exhaust pipe or muffler or rubbed against a moving part.
	Battery is dead or weak	Use a hydrometer to check the condition of the battery. The Specific Gravity (s.g.) should be 1.265 at 80°F. (1.215 s.g. minimum needed for cranking engine). The reason for the battery failing must be determined. (1) Defective battery. Battery will not accept or hold a full charge. (2) Short circuit. Check for grounded wire. (3) Charging system not working. The charging system is an alternator located under the flywheel. It is unregulated and rated 3 amp. at 3600 r.p.m. A diode (rectifier) is located in the output lead just before the wire harness plug on the engine side.  The diode changes A.C. to D.C. to charge the battery. A bad diode can either fail to charge the battery or discharge the battery if the alternator is shorted as well as the diode. To test: (1) Disconnect charger lead from the battery (small red wire). (2) Connect 12 V small test lamp between the 3 amp. D.C. charge lead and the positive terminal of the battery. (3) With the engine off, the lamp should not light. If it does, the diode and possibly the alternator should be replaced. (4) Start the engine. The lamp should light. If it does not, the alternator (stator) or lead wire is bad and should be replaced.
	Mechanical failure (Wires and switches)	The interlock system includes two mechanical activated switches which are wired in series in the circuit used to energize the starter solenoid. While testing the interlock system, you will make the mower temporarily unsafe by permitting the engine to be started with the blade and clutch engaged. WARNING: While testing, disengage the clutch, shut off the blade control, set the parking brake and place the gear shift lever in neutral. Attach a wire (minimum 18 gauge) to the positive terminal of the battery and touch the other end to the small terminal on the solenoid. **If the engine does not crank:** (1) There is a loose connection or poor ground. (2) The solenoid may be bad. The solenoid can be checked by using a heavy wire (#8 gauge minimum) and jumping between the two large terminals. If the engine cranks, the solenoid is bad. (3) If the engine does not crank when you jump the solenoid, have the starter motor tested by an authorized engine dealer. If the engine does crank, the problem is with one of the safety switches, ignition switch or the wire between the fuse holder (or circuit breaker) and the small terminal on the solenoid. Note: Look for a poor connection at the switches or a defective switch. Replace if necessary.
Engine cranks but will not start	Throttle or choke not in starting position	Check owner's guide for correct position for throttle control and choke for starting.
	No spark to spark plug	Spark plug lead disconnected. Connect lead. Hold spark plug lead away from engine block about 1/8". Crank engine. There should be a spark. If not, have engine repaired at authorized engine service dealer. Faulty spark plug. To test, remove spark plug. Attach spark plug lead to spark plug. Ground the spark plug body against the engine block. Crank the engine. The spark plug should fire at the electrode. Replace if it does not.

TROUBLE SHOOTING GUIDE (continued)

TROUBLE	LOOK FOR	REMEDY
	No fuel to the carburetor	Gasoline tank empty. Fill. Fuel line or in-line fuel filter plugged. Remove and clean fuel line. Replace filter if necessary.
	Air filter dirty	If the air cleaner is dirty, the engine may not start. Clean or replace as recommended by the engine manufacturer.
Engine smokes	Engine loses crankcase vacuum	Dipstick not seated or broken. Replace defective part. Engine breather defective. Replace.
Excessive vibration	Bent or damaged blade spindle	**Stop engine immediately.** Check all pulleys, blade adapters, keys and bolts for tightness and damage. Tighten or replace any damaged parts.
	Bent blade	**Stop engine immediately.** Replace damaged blade. Only use original equipment blades.
Mower will not discharge grass or leaves uncut strips	Engine speed low Transmission selection Blades short or dull	Throttle must be set at full throttle. Use lower transmission speed. The slower your ground speed, the better the quality of cut. Sharpen or replace blades (uncut strip problem only).

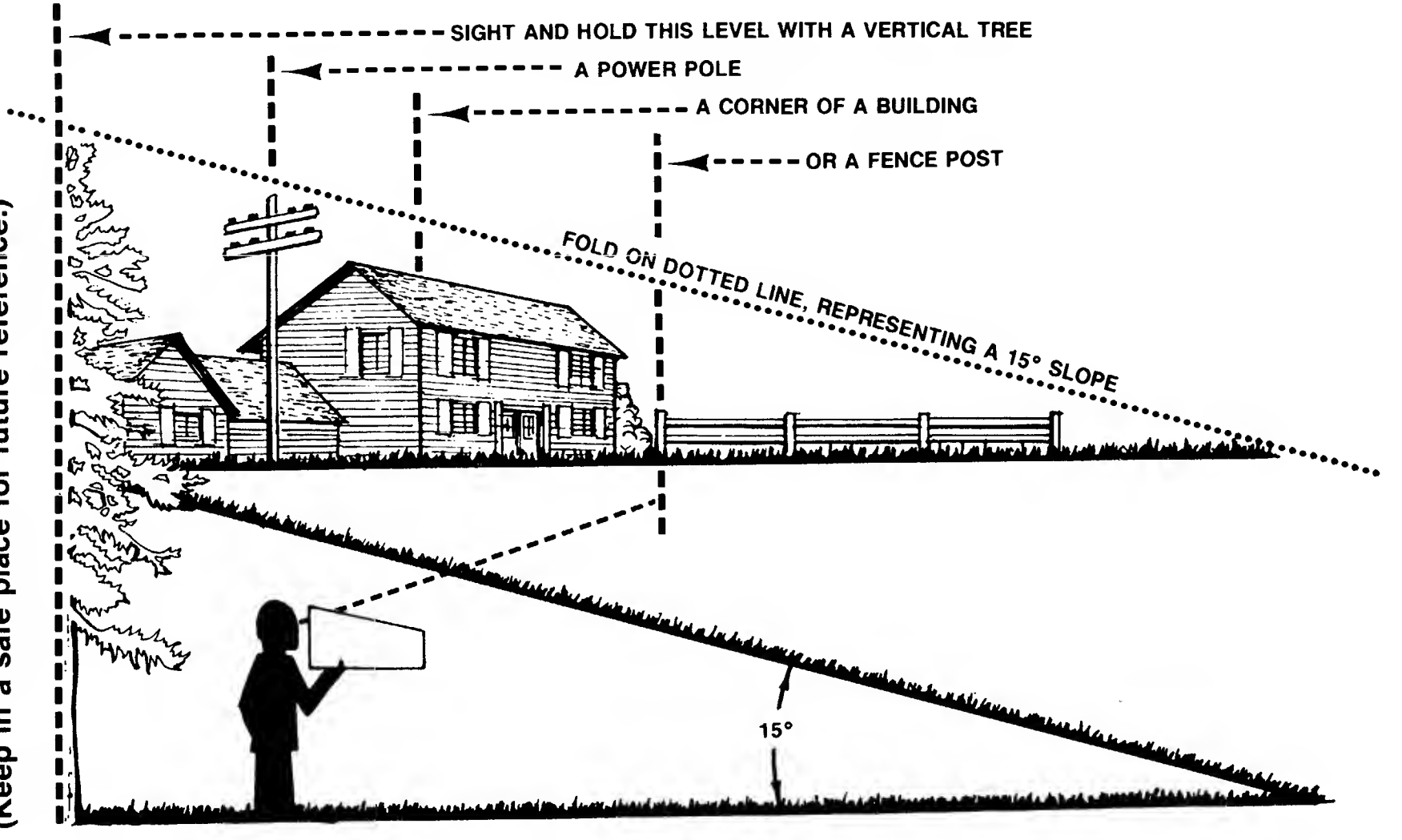
BELT TROUBLE SHOOTING GUIDE

Failure	Probable Cause	Corrective Action
1 Broken Belt	1A Sudden stop or shock load to belt	1A Inspect rider for cause such as foreign objects stuck in between deck and frame or belt path. Remove obstruction and inspect for damage. Replace belt per parts list in this manual.
	1B Incorrect belt used	1B Replace with proper belt only. See parts list in this manual. Roll belt onto pulley. **Do not** use a screwdriver to push or pry belt onto pulley. The sharp bend can damage internal cords.
	1C Abrupt engagement	1C Slower engagement required.
	1D Defective or damaged belt	1D Refer to 1B.
2 Belt Shreds	2A Belt guides or guards incorrectly adjusted	2A Belt guides and guards should be adjusted to approximately 1/16 to 1/8 inch from belt when in the engaged position.
	2BPulleys not aligned	2B Realign pulleys to be within approximately 1/16 inch of each other. Check with straight edge. Be sure fastening hardware is tight.
	2C Bad pulley—rough, rusty, chipped, bent, frozen bearing, etc.	2C Replace as necessary. Adjust as per 2B.
3 Belt Comes Off	3A Belt stretched	3A Adjust as necessary when applicable. Refer to 1B.
	3B Broken or weak idler spring	3B Replace.

USE THIS SHEET AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.

SLOPE GAUGE

(Keep in a safe place for future reference.)



WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2½ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

Operate RIDING mowers up and down slopes, never across the face of slopes.

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